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From the Editor

In the past year, beginning when Chief of Staff General Eric K. Shinseki's announced his intention to transform the Army, soldiers and civilians have labored to implement the vision. Without taking a time-out from current missions, the Army continues to exercise, maintain and upgrade the Legacy Force while simultaneously defining the roles, missions, capabilities and requirements for the initial brigade combat teams at Fort Lewis, Washington. Those understandings help articulate composition of the Interim Force—and forecast characteristics of the Objective Force.

Moving quickly to overcome entrenched bureaucracies and habitual ways of doing business, the Army staff and the Army's Training and Doctrine Command have done in 11 months what in the past would have taken two to three years, an enormous effort in time, energy and resources. Obviously, much work remains. But it is no longer a question of whether transformation is the right thing to do; rather, leaders now grapple with the breadth and depth of its impact on the Army.

Transformation is both immediate and narrowly focused—and long term and far reaching. The current work on the initial brigades at Fort Lewis, marks the beginning of a new era. The ongoing innovation in concepts, platforms and system technologies will eventually recast the entire Army.

Military Review's May-June issue focused on the contemporary and historical contexts for the Army's transformation. As a follow-on to that, this issue of *Military Review* restates the vision as a point of departure and then traces the philosophical, technological and doctrinal pioneering work being done by TRADOC agencies at Fort Monroe, Virginia; Fort Leavenworth, Kansas; and elsewhere that have given shape to the transformation concept. In addition, contributors show how the IBCTs are bringing the vision to life in operational and training applications, explaining the overarching concepts that provide direction for the details of who, what, where, when and how.

With this further look at the Army's transformation, *Military Review* hopes to spark analysis of what is being done and stimulate discussion about what lies ahead. No matter where you are or what you are doing in the Army, this process affects you, your future and your successors. Help make sure that we get it right—join the vanguard.

LJH

TRANSFORMATION VANGUARD

Even as this section discusses many facets of transformation, it implies the greater difficulty of articulating, capturing and influencing all the areas necessary to reinvent the US Army. In a republication of last year's Army Vision, Secretary of the Army Louis Caldera and Army Chief of Staff Eric K. Shinseki outline the future. Michael Mehaffey adds some color to the picture by describing how the transformation campaign plan will carry the Army forward over the next decade. Major General James Dubik shares how those concepts are taking shape at Fort Lewis, Washington, right now. Other authors illustrate transformation with detail in particular areas. Propelling the initial and interim brigades is a new breed of adaptive leaders that Kent E. Ervin and David A. Decker describe. To ensure those leaders share information practically and purposefully, the Army is committed to technology that provides common understanding during an operation, as Micheal Boller clarifies. As information increasingly becomes the currency of leadership, commanders at lower levels must master information operations, for which Leonard G. Nowak offers tips. With today's technology, information can be available almost anywhere, and John M. Neal explains how the concept of reachback will give robust capabilities to lean units. Part of reducing deployed units' footprint involves reducing in-theater logistic support, and Kathy Flowers and Robert McKay spell out how the Distribution-Based Logistics System makes that possible. Throughout transformation, the Army exploits lessons from past efforts and learns during the current campaign, processes that Lon R. Seglie and April Selby-Cole detail in their article. Finally, David T. Fautua proposes ways to integrate the Reserve Components into the objective force.

ARMY VISION

Soldiers On Point for the Nation … Persuasive in Peace, Invincible in War

The Honorable Louis Caldera, Secretary of the Army, and General Eric K. Shinseki, US Army Chief of Staff

THE ARMY—a strategic instrument of national policy that has served our country well in peace and war for more than two centuries.

Soldiers enable America to fulfill its world leadership responsibilities of safeguarding our national interests, preventing global calamity and making the world a safer place. They do this by finding peaceful solutions to the frictions between nation states, addressing the problems of human suffering, and when required, fighting and winning our Nation's wars—our nonnegotiable contract with the American people.

The Army—is People

The magnificence of our moments as an Army will continue to be delivered by our people. They are the engine behind our capabilities, and the soldier remains the centerpiece of our formation. We will continue to attract, train, motivate and retain the most competent and dedicated people in the Nation to fuel our ability to be persuasive in peace and invincible in war. We will assure the Nation's security by equipping, training and caring for our people and their families, and enabling their full potential as individuals. The Army will be a professionally rewarding and personally enriching environment within which people take pride in being part of the Nation's most highly esteemed institution. Our physical, moral and mental competence will give us the strength, the confidence and the will to fight and win anywhere, anytime. We will be trained and ready to do anything the American People ask us to do, and we will do it better, faster and more affordably. In the process, we will provide the inspired leadership that celebrates our soldiers and nurtures their families, trains for decisive victories and demonstrates responsible stewardship for the national treasure entrusted to us—our men and women in uniform and the resources to make them successful.

The Army—Strategic Dominance Across the Entire Spectrum of Operations

The world remains a dangerous place full of authoritarian regimes and criminal interests whose combined influence extends the envelope of human suffering by creating haves and have-nots. They foster an environment for extremism and the drive to acquire asymmetric capabilities and weapons of mass destruction. They also fuel an irrepressible human demand for freedom and a greater sharing of the better life. The threats to peace and stability are numerous, complex, oftentimes linked and sometimes aggravated by natural disaster. The spectrum of likely operations describes a need for land forces in joint, combined and multinational formations for a variety of missions extending from humanitarian assistance and disaster relief to peacekeeping and peacemaking to major theater wars, including conflicts involving the potential use of weapons of mass destruction. The Army will be responsive and dominant at every point on that spectrum. We will provide to the Nation an array of deployable, agile, versatile, lethal, survivable and sustainable formations, which are affordable and capable of reversing the conditions of human suffering rapidly and resolving conflicts decisively. The Army's deployment is the surest sign of America's commitment to accomplishing any mission that occurs on land.

10th Mountain Division soldiers training for a JRTC rotation.

US Army

Responsive. Responsiveness has the quality of time, distance and sustained momentum. Our threat of the use of force, if it deters miscalculation by adversaries, provides a quality of responsiveness all its own. We will provide strategic responsiveness through forward-deployed forces, forward positioned capabilities, engagement, and, when called, through force projection from the Continental United States or any other location where needed capabilities reside. Wherever soldiers serve, we are part of the Nation's solution to its tremendous world leadership responsibilities.

Deployable. We will develop the capability to put combat force anywhere in the world in 96 hours after lift-off—in brigade combat teams for both stability and support operations and for warfighting. We will build that capability into a momentum that generates a warfighting division on the ground in 120 hours and five divisions in 30 days.

Agile. We will attain the mental and physical agility operationally to move forces from stability and support operations to warfighting and back again just as we have demonstrated the tactical warfighting agility to task organize on the move and transition from the defense to the offense and back again. We will develop leaders at all levels and in all components who can prosecute war decisively and who can negotiate and leverage effectively in those missions requiring engagement skills.

Versatile. We will design into our organizational structures, forces which will, with minimal adjustment and in minimum time, generate formations which can dominate at any point on the spectrum of operations. We will also equip and train those organizations for effectiveness in any of the missions that The Army has been asked to perform. These commitments will keep our components capable, affordable and indispensable to the Nation.

Lethal. The elements of lethal combat power remain fires, maneuver, leadership and protection. When we deploy, every element in the warfighting formation will be capable of generating combat power and contributing decisively to the fight. We will retain today's light force deployability while

providing it the lethality and mobility for decisive outcomes that our heavy forces currently enjoy. We will retain heavy force lethality through overmatch while giving it deployability and employability in areas currently accessible only by light forces. We intend to get to trouble spots faster than our adversaries can complicate the crisis, encourage de-escalation through our formidable presence, and if deterrence fails, prosecute war with an intensity that wins at least cost to us and our allies and sends clear messages to all who threaten America. As technology allows, we will begin to erase the distinctions between heavy and light forces. We will review our requirement for specialty units and ensure they continue to evolve to meet the needs of the Nation.

Survivable. We will derive the technology that provides maximum protection to our forces at the individual soldier level whether that soldier is dismounted or mounted. Ground and air platforms will leverage the best combination of low observable, ballistic protection, long range acquisition and targeting, early attack, and higher first round hit and kill technologies at smaller calibers that are available. We are prepared to venture into harm's way to dominate the expanded battlespace, and we will do what is necessary to protect the force.

Sustainable. We will aggressively reduce our logistics footprint and replenishment demand. This will require us to control the numbers of vehicles we deploy, leverage reachback capabilities, invest in a systems approach to the weapons and equipment we design, and revolutionize the manner in which we transport and sustain our people and materiel. We are prepared to move to an all-wheel formation as soon as technology permits.

Our commitment to meeting these challenges compels comprehensive transformation of The Army. To this end, we will begin immediately to transition the entire Army into a force that is strategically responsive and dominant at every point on the spectrum of operations. We will jumpstart the process by investing in today's off-the-shelf technology to stimulate the development of doctrine, organizational design and leader training even as we begin a search for new technologies for the objective force. Doing so will extend our technological overmatch.

The Army—while aspiring to be the most esteemed institution in the Nation, will remain the most respected Army in the world and the most feared ground force to those who would threaten the interests of the United States

We are about leadership; it is our stock in trade, and it is what makes us different. We take soldiers who enter the force and grow them into leaders for the next generation of soldiers. We will continue to develop those leaders through study in the institutional schoolhouse, through field experiences gained in operational assignments and through personal study and professional readings. Our soldiers provide back to America a corps of leaders who have an unmatched work ethic, who have a strong sense of values, who treat others with dignity and respect, who are accustomed to hard work, who are courageous, who thrive on responsibility, who know how to build and motivate teams and who are positive role models for all around them. We provide this opportunity to American youth so that we can keep our Nation strong and competitive and enable it to fulfill its leadership role in the community of nations. We invest today in the Nation's leadership for tomorrow. In providing this strategic edge to the Nation, we are, have been, and will remain a values-based institution where. . .

Loyalty, duty, respect, selfless service, honor, integrity, and personal courage

. . . are the cornerstone of all that we do today and all of our future successes. Our soldiers, who exemplify these values every day, are the best in the world; they voluntarily forego comfort and wealth, face hardship and sacrifice, confront danger and sometimes death in defense of the Nation. We owe them our unwavering support, our professional excellence and our resolute pursuit of this vision to ensure that they remain the world's finest land force for the next crisis, the next war and an uncertain future. ***MR***

Secretary Louis Caldera was sworn in as the 17th secretary of the Army on 2 July 1998. Before assuming his current position, he served in the California legislature for five years representing the 46th Assembly district. He received a B.S. from the US Military Academy, an M.B.A. from Harvard Business School and a J.D. from Harvard Law School. He served as a commissioned officer in the US Army from 1978 to 1983.

General Eric K. Shinseki is the US Army Chief of Staff. He received a B.S. from the US Military Academy and an M.A. from Duke University, Raleigh, North Carolina. He is a graduate of the United States Army Command and General Staff College, and the National War College. He has served in a variety of command and staff positions in joint and allied assignments in the Continental United States, Europe, Korea and Vietnam.

Vanguard of the Objective Force

Colonel Michael Mehaffey, US Army

SINCE THE END of the Cold War, the Army has repeatedly proven its value to the nation through adaptive crisis-response in Southwest Asia, Africa, Central America and Southern Europe. Indeed, in virtually every contingency since 1989, landpower has proven essential to lasting decision. However, the high frequency of joint contingency operations in the 1990s—a frequency expected to continue and perhaps rise during the 21st century—has sharply increased the significance of strategic responsiveness. Clearly, Army forces are increasingly important to a joint force that can rapidly deploy to prevent, contain, stabilize or terminate a conflict in its early stages.

In response to this new operational environment, Secretary of the Army Louis Caldera and US Army Chief of Staff Eric K. Shinseki formulated a new Army Vision in October 1999 to build a strategically responsive landpower force capable of dominance across the full spectrum of operations. The Army will implement the vision using three-stage transformation campaign over the next 10 to 20 years, leading to an objective force that will incorporate revolutionary improvements.

The Army's transformation campaign plan is the most challenging and significant effort to change the Army in more than a century. The interim brigade combat teams (IBCTs) now under development have been characterized as the vanguard of that future force.

Why the IBCT and Why Now?

Although the Army is capable of full-spectrum dominance, its organization and force structure are not optimized for strategic responsiveness. Army light forces—the best in the world—can deploy within days but lack the lethality, mobility and staying power necessary to assure decision. On the other hand, Army mechanized forces possess unmatched lethality and staying power but require too much time to deploy. The Army's 21st-century responsibility for effective strategic responsiveness demands rapidly deployable combined arms forces that exploit information and human potential and combine advantages of both light and mechanized forces. Meeting this immediate requirement and providing warfighting commanders with an important new option for decisive contingency response is the central near-term objective of the Army's decision to develop full-spectrum medium-weight brigades—the interim brigade combat teams. The IBCTs, operating within division structures, will provide a complementary capability to our current light and mechanized forces, serving as a bridging force until science and technology allow the Army to achieve objective force capabilities.

The IBCT has been designed as a full-spectrum, early-entry combat force. The brigade has utility, confirmed through extensive analysis, in all operational environments against all projected future threats, but it is optimized primarily for employment in smaller-scale contingencies in complex and urban terrain, confronting low-end and mid-range threats that may employ both conventional and asymmetric capabilities.

The Army will rapidly and nearly simultaneously develop two initial brigade combat teams during the next two years using two existing bri-gades, one heavy and one light, at Fort Lewis, Washington. The accelerated development of these brigades will jump-start the implementation of the Army transformation strategy. In fact, as the vanguard of the objective force, these IBCTs will also incorporate many innovative concepts that will be fully op-

erational within the objective force:

- Commander- and execution-centric command and control environment.
- Networked operations.
- Multifunctional soldiers, leaders and staffs.
- Effects-based planning.
- Execution-focused, distribution-based sustainment.
- Flattened hierarchies and integrated headquarters.

Mission of the interim brigade combat team. The IBCT has been designed as a full-spectrum, early-entry combat force. The brigade has utility, confirmed through extensive analysis, in all operational environments against all projected future threats, but it is optimized primarily for employment in smaller-scale contingencies (SSC) in complex and urban terrain, confronting low-end and mid-range threats that may employ both conventional and asymmetric capabilities. Under the command and control of a division fully integrated within the joint contingency force, the IBCT will deploy rapidly, execute early entry and conduct effective combat operations immediately on arrival to prevent, contain, stabilize or resolve a conflict. The IBCT will participate in major theater war (MTW) as a subordinate maneuver component within a division or corps, in a variety of possible roles. The IBCT will also participate in military operations other than war (MOOTW) as an initial entry force or guarantor force to provide security for stability forces.

IBCT Overview. The IBCT is a divisional brigade that will normally fight as the first-to-deploy brigade under a division headquarters. Preconfigured in ready-to-fight combined arms packages, the entire IBCT is intended to deploy within 96 hours of "first aircraft wheels up" and begin operations immediately upon arrival at the aerial port of debarkation. The brigade cannot conduct forced-entry units, but it provides the joint force commander an improved capability to arrive immediately behind forced entry forces and begin operations to shape the battlespace and expedite decision.

The major fighting components of the IBCT are three motorized, combined arms infantry battalions, supported by additional organic combat, combat support and combat service support organizations. As much as possible, units will be equipped from commercial-off-the-shelf and government-off-the-shelf equipment to accelerate development and reduce costs. To meet its demanding deployment threshold, the brigade's design capitalizes on the widespread use of common vehicular platforms, including highly-mobile, medium-weight interim armored vehicles (IAV), coupled with minimized personnel and logistic footprints in theater.

The IBCT design must balance requirements for strategic responsiveness with capabilities of battlespace dominance. This calculus requires the organizational scheme to balance deployability, sustainability and the IBCT's in-theater footprint against its combat requirements for lethality, mobility and survivability.

As a full-spectrum combat force, the brigade typically maintains an offensive orientation. However, depending on the nature and evolution of the contingency, the IBCT is capable of conducting all major doctrinal operations: offense, defense, stability and support. Its core operational capabilities rest upon excellent operational and tactical mobility, digitization-based situational understanding, combined arms integration down to company level, and high dismounted infantry strengths for close combat in urban and complex terrain. Properly integrated and networked, these core capabilities enhance force effectiveness and compensate for any platform limitations in the close fight.

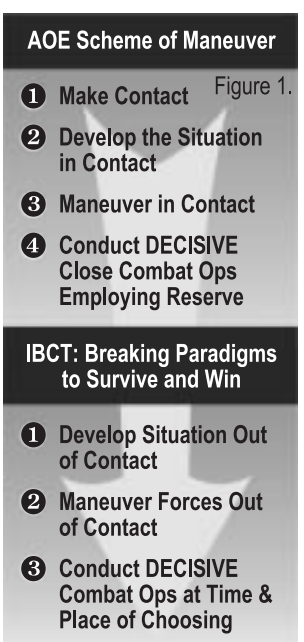


Figure 1.

Organizational Concept

Despite its innovative aspects, the IBCT has not emerged as a free-standing concept. Army operational experience and experimentation during the 1990s and current technology support the concept of smaller, more capable organizations that exploit the power of information, networked systems, improved communications and refined tactics, techniques and procedures (TTP).

Multiple schools and centers within the Training and Doctrine Command, TRADOC), led by the TRADOC Analysis Center (TRAC),

have engaged in comprehensive, continual analysis to inform decisions about the IBCT organization and operations. Based on mission analysis of the operational environment in which the IBCT would most likely be employed, TRAC and other centers

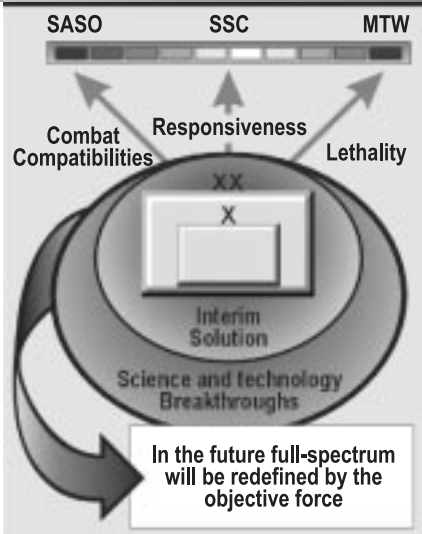
Situational understanding is the fundamental force enabler across all IBCT battlefield operating systems and the foundation for risk mitigation with respect to its vulnerabilities, particularly the lack of substantial armor protection. . . . Although traditional combined arms task organization occurs at battalion level and higher, analysis for the IBCT indicates that, within the environment of urban and complex terrain, force effectiveness is best enhanced through internetted combined arms capabilities to company team level.

employed a Serbia/Balkans case scenario to support analysis. Other geographic regions (Southwest Asia, Northeast Asia) were investigated and permutations within scenarios regarding the nature of the force, the threat, the nature of the contingency and other operationally significant factors were pursued. Investigators employed a wide range of methodologies, models and simulations, including Janus, modular semi-automated forces, fire simulation XXI and others. An enormous number of insights and potential applications emerged from this effort, which informed multiple iterations of the IBCT concept and established a basis for initial and subsequent design decisions.

Key design parameters. The critical element in producing the optimum organization for the interim brigade combat team is the requirement to achieve balance in two primary areas. First, the IBCT design must balance requirements for strategic responsiveness with capabilities for battlespace dominance. This calculus requires the organizational scheme to balance deployability, sustainability and the IBCT's in-theater personnel footprint against its combat requirements for lethality, mobility and survivability. In essence, the brigade must achieve the deployability standards of a light force while arriving with the punch and staying power approaching that of a mechanized formation.

Second, the organization must provide balanced full-spectrum utility. Although the brigade is deliberately optimized for early-entry operations in SSCs, mission analysis also requires it to be prepared to participate in MOOTW to permit peacekeeping and stability forces to carry out their missions in a secure environment. Similarly, the IBCT must be prepared to fight as a component within a division or corps structure in major theater war. In these roles, the IBCT is designed to be suitably augmented to compensate for recognized, specific shortfalls in its capabilities for fires and effects, aviation operations, countermobility, command and control (C^2), communications and force protection. The organization includes the command, control and communications (C^3) "hooks" for rapid integration of additional capabilities for operations outside the scope of SSCs.

IBCT: Meeting the Strategic Requirement



- **The Brigade with Div/Corps C4ISR is a rapidly deployable combat brigade task force.**
- **Major Theater Wars—fights as part of the Division:**
  - Allows us to close the gap between entry and decisive operations
  - Complementary force for mechanized and light forces
  - Conducts Supporting Attacks or fights as one of the brigades in the Division's Main Attack
- **In Stability and Support Operations:**
  - The Brigade is the guarantor combat force
  - It protects joint and coalition PK/PE forces
  - It may be the initial force deployed to separate belligerents
- **In Smaller-Scale Contingencies:**
  - Rapidly deploys to prevent, contain, stabilize or terminate crisis
  - Land force capable of determining the outcome

Figure 2.

Engineers prepare to breach a wall in Mogadishu, Somalia.

US Army

Offensive operations are orchestrated at the battalion level . . . The IBCT will conduct rapid tactical maneuver or operational movement for positional advantage, based on highly accurate situational understanding, before dismounting infantrymen for close combat. . . . Normally, deliberate assaults by dismounted infantry companies and platoons supported by immediately responsive direct and indirect fires will achieve decision.

Analysis indicates further that the IBCT is more effective if its capabilities are embedded within the unit's organic organization, rather than employing the traditional division-slice approach. Therefore, the IBCT design includes embedded unit-based capabilities—military intelligence, signal, engineer, antitank, artillery and CSS elements—that have been tailored specifically to the unique requirements of the unit's mission set. This approach also provides the organizational basis and organic relationships necessary for the brigade to achieve a higher level of training for its mission set, enabling it to execute an effective train-alert-deploy paradigm instead of the alert-train-deploy cycle that has recently characterized Army contingency response. The organic structure further maximizes the human potential within the brigade, strengthening unit cohesion and providing the foundation for developing soldiers, leaders and staffs who can perform multiple functions.

Similarly, although traditional combined arms task organization occurs at battalion level and higher, extensive analysis for the IBCT indicates that, within the environment of urban and complex terrain, force effectiveness is best enhanced through internetted combined arms capabilities to company team level. The organization described below fully embraces this conclusion.

Key Operational Capabilities

For the brigade to operate successfully as a full spectrum force, the following key operational capabilities and characteristics must be reflected in its organizational design. The first two capabilities—mobility and dismounted assault-centric close combat—are the IBCT's most distinctive qualities.

Mobility. The IBCT requires high mobility at all three levels of operations. Strategically, it must be organized, equipped and configured to meet its 96-hour deployment standard. At the operational level, the IBCT must be capable of intratheater deployment by ground, sea or by C-130 air transport so the joint force commander can exploit opportunities and hedge against uncertainty. The IBCT also requires 100 percent tactical mobility to strike the enemy in depth, reposition its reserve rapidly, secure lines of communication in uncertain conditions

and conduct noncontiguous platoon, company and battalion operations in urban and complex terrain.

Dismounted assault and the close fight. Given its likely operational environment, the IBCT achieves tactical decision through combined arms action at the company level focused on dismounted assault, enabled by direct fires from organic IAV-based combat platforms, and the integration of mortars, artillery, mobility support, and joint fires and effects. Combined arms companies directly link infantrymen and supporting weapons to produce a very responsive "point-and-shoot" capability that permits successful engagement of fleeting targets in complex, urban and compartmented terrain. Dismounted infantry can also improve survivability of the unit's platforms by allowing them to achieve standoff and avoid man-portable antitank fires.

Mobility and dismounted assault-centric close combat—are the IBCT's most distinctive qualities. . . . The IBCT has a pronounced offensive orientation. Its key operational capabilities are deliberately designed to enhance its offensive power, with clear benefits for deterrence, conflict prevention, containment or conflict resolution.

Enhanced situational understanding (SU). Situational understanding is the fundamental force enabler across all IBCT battlefield operating systems and the foundation for risk mitigation with respect to its vulnerabilities, particularly the lack of substantial armor protection. The brigade employs an integrated suite of intelligence, reconnaissance and surveillance (ISR) capabilities and digitized battle command systems to develop and disseminate a common operational picture throughout the force, achieving SU as the commander applies judgment and experience. The reconnaissance, surveillance and target acquisition (RSTA) squadron is the organization primarily responsible for providing combat information to build the knowledge base necessary to achieve SU. Situational understanding and information superiority enable the force to avoid surprise, develop rapid decisions, control the time and place for combat, conduct precision maneuver, shape the battlespace with precision fires and effects, and achieve decisive outcomes.

Lethality. Given the IBCT's combat mission, the brigade must possess a robust array of direct and indirect fire systems adequate to shape the battlespace and achieve decision in the close fight. Mortars are embedded to company level to enhance responsiveness and facilitate noncontiguous, distributed operations. A limited antitank capability within the IBCT is required to deal with the possible presence of enemy mechanized forces within the area of operations (AO). Force effectiveness requires fire systems that are mobile, fully integrated, internetted and mutually supportive within the IBCT concept of operations. The primary lethal systems within the interim brigade combat team include:

- Mobile gun systems.
- Tube-launched, optically-tracked, wire-guided (TOW) 2B antitank guided missiles.
- Javelin antitank missiles.
- 120mm, 81mm and 60mm mortars.
- 155mm cannon artillery.

The high mobility of these systems sharply increases their effective use in combat operations, generating greater combat power than light forces of comparable size.

Holistic force protection and survivability. As a force equipped with medium-weight armored and thin-skinned vehicles, the brigade faces the challenge of achieving an adequate level of force protection and survivability against enemy fires without significant passive protection. Overall, the IBCT must meet its force protection challenges through the holistic application of a variety of capabilities including early warning, situational understanding, the avoidance of surprise, deception, rapid mobility, signature control, nontemplatable operations, avoidance of enemy fires, mutual support, use of cover and concealment, and the implementation of innovative TTP.

Force effectiveness. The IBCT will offset the limitations of its IAV-based platforms through the integration of other capabilities, particularly the internetted actions of the combined arms company teams. Force effectiveness is further enhanced through the use of common platforms, shared SU, rigorous combined arms training, and multifunctional soldiers and capable leaders.

Reachback. Reachback enables the brigade to exploit a multitude of nonorganic resources to accomplish its assigned missions. The IBCT executes reachback routinely and deliberately in five primary areas: fires and effects, intelligence and information, planning and analysis, force protection, and sustainment. Reachback permits the IBCT to reduce its footprint in the AO without compromising its ability to accomplish its assigned mission. Reachback is executed primarily through the divi-

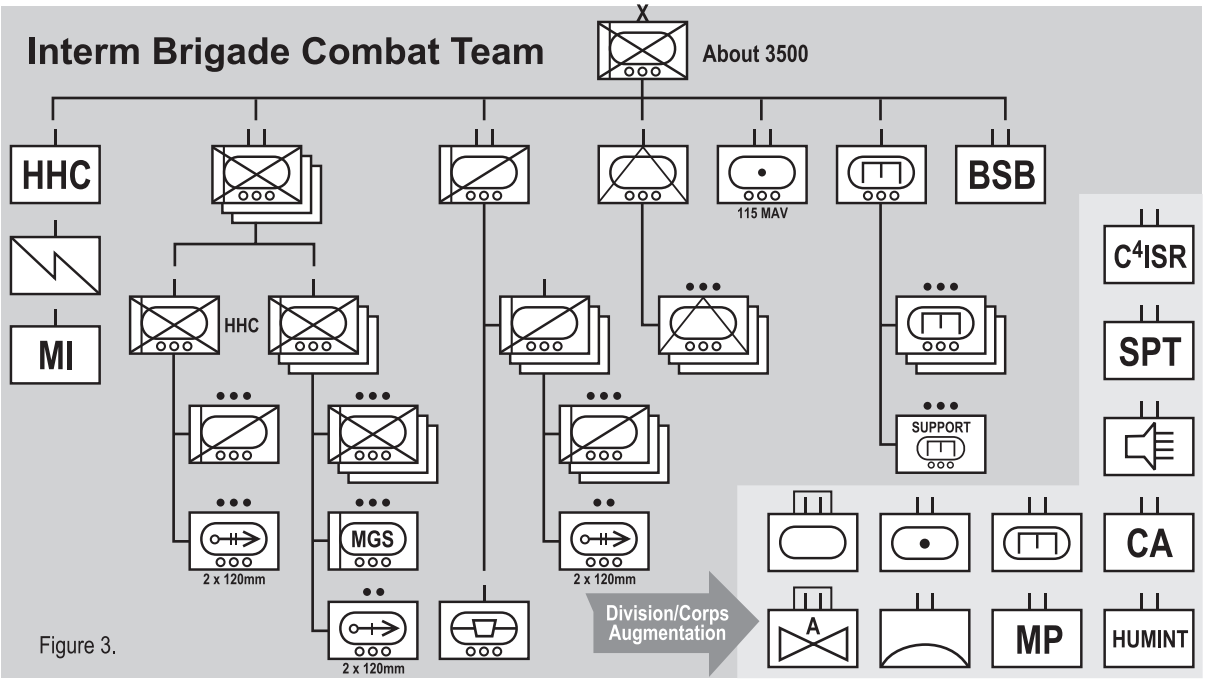


Figure 3.

sion headquarters, although the employing headquarters may authorize direct linkages between the IBCT and resource providers.

IBCT Organization

Given its orientation on urban terrain and its core capabilities of high tactical mobility and dismounted assault, the IBCT is organized primarily as a combined arms organization, including:

- *Three infantry battalions.* These motorized, combined arms infantry battalions are the primary maneuver elements within the IBCT. Within the battalions, snipers, mobile gun systems, mortars, Striker-equipped fire support teams and reconnaissance elements provide the appropriate systems required for combined arms integration vital to support dismounted operations by squads, platoons and companies.
- *The RSTA squadron.* The RSTA squadron was developed to satisfy a set of unique operational requirements. As the IBCT's primary source of combat information, the squadron supports situational understanding, empowering the IBCT to anticipate, forestall and dominate threats, ensuring mission accomplishment through freedom of maneuver and decisive action. Moving beyond traditional reconnaissance that focuses primarily on enemy forces, the squadron will see, know and understand the operational environment in detail. The RSTA squadron includes three reconnaissance troops and a surveillance troop. The surveillance troop is comprised of an unmanned aerial vehicle platoon, a ground sensor platoon, and a nuclear, biological and chemical reconnaissance platoon. Overall, the squadron can continuously and simultaneously reconnoiter nine routes or conduct surveillance of 18 designated areas. The squadron operates by stealth throughout the entire AO and employs human intelligence (HUMINT) and counterintelligence experts to compensate for shortfalls in sensors that are more suited for open terrain and force-based information.
- *The antitank (AT) company.* The AT company comprises the IBCT's primary standoff antitank capability. The company increases IBCT flexibility and improves its survivability, particularly in open terrain. The company consists of three platoons, each with four long-range, fire-and-forget, TOW 2B systems mounted on IAVs.
- *The field artillery battalion.* Because the IBCT is highly vulnerable to artillery casualties, the artillery battalion, while still required to provide supporting fires, focuses sharply on responsive, proactive counterbattery fires. The fire-support organization optimized for combat effectiveness would include a mix of cannon and rocket artillery, but that mix does not meet the IBCT's deployment and sustainment profiles. The initial brigades will be equipped with the M198 (155mm towed howitzer) while the Army pursues the development of an IAV-based, 155mm system for the interim force.
- *The engineer company.* Given the significance of tactical mobility to successful operations, the

engineer company is optimized for mobility support. Issues connected with span of control and the complexity of its tasks dictate that the company be organized as a brigade-level asset.

- *The signal company*. The IBCT signal company provides the strong C^2 communications backbone required to support distributed operations within urban and complex terrain across potentially significant distances, as well as the linkages required for effective communications with the division or higher echelons. Considerably smaller than what would be provided from a division, the company supports and provides depth to the brigade S6.

Effects are the result of the directed application of lethal and nonlethal capabilities to achieve a desired purpose or outcome in support of the commander's intent. Effects are a component of the operational plan and must be fully integrated and synchronized with other elements of the plan, particularly the scheme of maneuver. Planning must include the control and management of unintended effects and their impact on the mission.

- *The military intelligence (MI) company.* The MI company essentially operates as an extension of the brigade S2 to manage ISR collection assets. It provides analysis to support the development of the IBCT common operational picture (COP), targeting and effects, and intelligence preparation of the battlefield. The company has the organic systems necessary to interface with ISR systems at the division, Army Forces, joint, theater and national levels and supports the tactical HUMINT activities required in the SSC environment.
- *The brigade support battalion (BSB).* The BSB is designed to perform execution-focused, distribution-based, centralized logistic functions. Its effectiveness depends on the advances in combat service support (CSS) C^2, enhanced CSS situational understanding and regionally available resources from joint, multinational, host nation or contract sources. The small size of the BSB minimizes the logistic footprint in the IBCT AO.

The IBCT organization consciously excludes other unit-based capabilities often provided in a division slice, such as aviation, air and missile defense, combat and construction engineers and military police. If the contingency environment requires these capabilities, they will be mission-tailored to the IBCT in augmentation packages.

Operations

The IBCT is specifically designed to operate in accordance with emerging warfighting concepts. In particular, the IBCT is designed to conduct distributed operations across the depth and breadth of the AO, against both traditional and asymmetric adversaries.

Against a traditional (conventional) enemy, IBCT capabilities for early entry and exploitation of joint effects coordinated through the division considerably enhance its ability to shape the battlespace. The IBCT can conduct feints, demonstrations, other offensive information operations, extended reconnaissance, and integrated maneuver and shaping fires. It can neutralize or destroy critical combat, C^4ISR and logistic elements of the enemy force; deny the enemy's use of key terrain or resources; and prevent the enemy from achieving initial objectives or setting conditions favorable to his plans. When employed within its optimal SSC environment, IBCT shaping operations can transition quickly to decisive operations although the brigade may often require reinforcement by follow-on forces.

When confronting a nonconforming, asymmetric adversary, IBCT shaping operations assume a broader nature for a variety of reasons. First, centers of gravity and decisive points for asymmetric adversaries are more difficult to determine. In many situations, military capabilities will not constitute the primary vulnerabilities or best means of influencing the enemy. As a result, the traditional approach of employing lethal effects to degrade or destroy specific enemy capabilities is not sufficient to shape the battlespace and affect the enemy's will.

Dealing with nontraditional adversaries places significantly greater responsibilities on the brigade commander and staff to integrate a variety of military and nonmilitary activities at the tactical level. This integration has two goals: first, to divine the enemy's patterns of operations, critical vulnerabilities and decisive points; second, to apply the right combinations of force to affect his perspectives, change his behavior and degrade his will to fight. Both goals are equally important, since action that is not informed by an accurate understanding of the enemy's vulnerabilities will not achieve the effects desired by the commander.

The RSTA squadron plays a central role in developing the situational understanding required in this complex environment. In addition, certain brigade staff sections—public affairs, staff judge advocate, psychological operations and information operations—fulfill particularly important respon-

US Army

A C-130 Hercules lands on an unimproved strip in Honduras.

Initial sustainment will rely on a combination of unit basic loads and strategic configured loads in early-arriving task-force sets. Sustainment stocks must also be integrated into the deployment flow early to sustain first-arriving elements. Battlefield distribution will combine situational understanding with efficient air and surface delivery systems to form a seamless pipeline, eliminating most stockpiles and substituting speed for mass.

sibilities with respect to planning, preparing, executing and assessing the effects necessary for success.

The common operational picture developed within the IBCT must be expanded to include a comprehensive grasp of international, regional and local factors that affect friendly and enemy actions. The common picture must also reflect extraordinary understanding of the nontraditional adversary—his objectives, options for actions, inclinations and vulnerabilities—to determine the best means of influencing his will and behavior. The IBCT must continuously "take the temperature" of the asymmetric adversary by frequently assessing the effects achieved within the AO. Over time, these efforts will reduce uncertainty and enable the IBCT to improvise and adjust continually.

Commander-and Execution-Centric C^2 Environment

Understanding the C^2 environment in which the brigade will operate is critical to understanding its employment and tactical style. The IBCT's unique, evolving, commander- and execution-centric C^2 environment builds on lessons learned during Force XXI experimentation. The IBCT commander and staff will execute a significantly new approach to directing and managing operations. Advances in information technologies embedded in the brigade headquarters, coupled with substantial streamlining of the military decision making process (MDMP) and the proficiencies of the brigade's multifunctional staff promise to shift focus more solidly to the commander's requirements (vice staff requirements) and personal command style. Specific features and products of this evolution include the following characteristics:

- Near real-time information updates from organic and external sources will support continuous assessment and early rapid dissemination of command decisions and informed adjustment to plans, orders and ongoing operations.
- Multiechelon collaborative planning, based on IBCT COP, will streamline the MDMP and provide additional planning and preparation time to subordinate elements.
- Commander's critical information requirements will be more easily and frequently updated, based on better information.
- Command and staff energy will be expended less on understanding the present and focused more on anticipating the future and executing a continuously updated plan.
- The plan, prepare and execute phases of the

operations cycle will merge, creating a relatively seamless transition between current and future operations.

To support this C^2 environment, IBCT elements will be equipped with appropriate Army Battle Command System (ABCS) or ABCS-like systems such as the all source analysis system, maneuver control system, Advanced Field Artillery Tactical Data System, combat service support control system and Force XXI Battle Command Brigade and Below down to platform level. The IBCT C^4ISR networks and computers will have the rapid capability to receive and disseminate large volumes of voice and video data internally as well as externally to adjacent, higher, joint and allied units in all terrain and weather conditions. Long-range, non-line-of-sight tactical communication systems will be the principal means of connectivity for the command group, main command post and the brigade logistic support center.

BSB support operations are characterized by continuous adaptation and creative tailoring, based on unit operating tempos, commander-designated priorities for support and the frequently changing battlespace requirements. . . . The BSB combines distribution to unit level with area supply points to ensure that services and supplies are delivered when and where they are needed, fully synchronizing the IBCT's logistic rhythm with battle rhythms.

IBCT Tactical Operations

The IBCT has a pronounced offensive orientation. Its key operational capabilities are deliberately designed to enhance its offensive power, with clear benefits for deterrence, conflict prevention, containment or conflict resolution. Nevertheless, the IBCT may be required to assume the defense temporarily in an SSC. In addition, some elements of the IBCT may assume a defensive posture while the brigade as a whole conducts offensive operations. In those situations, the IBCT will purposefully conduct a mobile defense. Enabled by RSTA operations that unveil and anticipate the enemy's plan, an IBCT mobile defense best counters the enemy's moves, deprives the enemy of initiative and enables rapid and seamless transition to the offense.

Offensive operations. As a motorized force, the IBCT is designed for fast-paced, distributed operations. Typically, it operates within an area of operation approximately 50 kilometers by 50 kilometers. The RSTA squadron disperses throughout the entire AO while the infantry battalions normally operate within smaller, noncontiguous areas. Constituent rifle companies and platoons may also be dispersed within the battalion areas (as may RSTA units) depending on the situation.

Robust C^4ISR capabilities and high mobility enable the IBCT to operate according to a new tactical paradigm. In the past, maneuver forces normally:

- Made contact with the enemy.
- Developed the situation further.
- Maneuvered for decisive action.

Owing to enhanced SU, the IBCT will often be able to:

- Develop the situation out of contact.
- Maneuver rapidly to positions of advantage.
- Initiate contact at the time and place of the commander's choice to achieve decision.

In an SSC, offensive operations are orchestrated at the battalion level. Infantry battalions synchronize the maneuver of their companies with organic and supporting fires and effects. Companies, the centerpiece of maneuver, may retain a platoon out of contact to exploit success, flank enemy positions or commit as a reserve. Brigade level assets, such as antitank, artillery and engineer units, are employed at that level or allocated to maneuver elements as dictated by the situation.

As necessary, the IBCT will conduct rapid tactical or operational movement for positional advantage, based upon highly accurate situational understanding, before dismounting infantrymen for close combat. Rapid, precision maneuver permits combat elements to avoid enemy strengths, attack from unexpected directions, achieve surprise or fix the enemy with one portion of the IBCT while mounting a precise, deliberate attack on the enemy's flanks or rear.

In cases of incomplete situational understanding, maneuver formations may also fight mounted if ambushed or forced into a meeting engagement. While fighting mounted is not preferred, motorized formations will execute battle drills to escape or overwhelm the enemy in unexpected encounters.

Normally, deliberate assaults by dismounted infantry companies and platoons supported by immediately responsive direct and indirect fires will achieve decisions. Infantry support systems provide continuous, integrated coverage from overwatch positions, preferably from defilade, moving as required to maintain continuous suppressive and destructive fires on the enemy as directed by the dismounted element. Indirect fires at brigade and higher echelons shape the battlespace and suppress and destroy the enemy in the close fight. Antitank

engagements are planned to counter enemy medium armor. Company mobile gun systems are positioned to place direct fires against hardened positions, light and medium armor and light tactical vehicles.

In the close fight, platoons and squads execute traditional fire- and maneuver-tactics. Intrasquad radios that permit communications among infantrymen and between their fighting vehicles improve synchronized action even at the lowest levels.

RSTA operations. The squadron must excel in the traditional reconnaissance and surveillance roles and in the broader mission of providing situational understanding of the operational environment in all its dimensions—political, cultural, economic, demographic, military. The squadron's efforts are complemented by direct access to intelligence and information sources external to the IBCT and focused by the ISR integration and management elements at brigade level.

Typically, the squadron operates across the entire IBCT AO, executing its multidimensional roles according to an integrated brigade-level ISR plan. Troop operations are widely separated but coordinated and synchronized. The squadron's ability to reconnoiter continuously nine routes or 18 designated areas of interest (or a combination) guarantees broad coverage that can be focused and prioritized to weight an ongoing operation. Done properly, RSTA operations have high payoff in the areas of warning, force protection, combat assessment, freedom of maneuver, and the commander's flexibility and initiative.

Integrated fire support and effects coordination. The IBCT employs lethal and nonlethal effects to protect the force, shape the battlespace and support decisive operations. Effects are the result of the directed application of lethal and nonlethal capabilities to achieve a desired purpose or outcome in support of the commander's intent. Effects are a component of the operational plan and must be fully integrated and synchronized with other elements of the plan, particularly the scheme of maneuver. Planning must include the control and management of unintended effects and their impact on the mission. Normally, effects planning does not include subordinate maneuver forces or the direct fires organic to those forces.

In combat-intensive contingencies, lethal effects are primarily for force protection and decisive results. In other environments, particularly when confronting asymmetric adversaries, nonlethal effects may rise in importance. The range of nonlethal effects includes the employment of civil affairs, public affairs, law enforcement, legal assistance and restorative human services. Fully integrated lethal and nonlethal effects, synchronized within a cohesive plan of operations, set the conditions for tactical success and combine with maneuver to achieve the commander's intent.

Although capable of serving many purposes, the organic artillery battalion focuses sharply on responsive, proactive counterbattery fires. The fire support system must capitalize on digitally integrated C^4ISR capabilities to acquire, target and destroy enemy indirect fire systems *before* they engage IBCT elements. Effects planning is accomplished collaboratively with other battlefield operating systems resident within the IBCT. Links with the common ground station, coupled with voice and digital links to counterfire radars, fire support teams and reconnaissance elements are particularly important. Fire support teams are located down to company level within the IBCT's maneuver formations.

The RSTA Squadron plays a central role in developing the situational understanding required in the IBCT's complex environment. . . . The common operational picture developed within the IBCT must be expanded to include a comprehensive understanding of international, regional and local factors affecting friendly and enemy actions.

Concept of Support and Sustainment

To sustain the IBCT, the BSB executes a unique, execution-focused concept of support that is fully integrated with the brigade concept of operations and scheme of maneuver. BSB support operations are characterized by continuous adaptation and creative tailoring, based on unit operating tempos, commander-designated priorities for support and the frequently changing battlespace requirements. Through centralized management and CSS situational understanding, the BSB combines distribution to unit level with area supply points to ensure that services and supplies are delivered when and where they are needed, fully synchronizing the IBCT's logistic rhythm with battle rhythms. Logistic flexibility and dynamic retasking of BSB elements typify its operations as supplies and services are tailored, packaged and delivered to specific supported units.

Initial sustainment will rely on a combination of unit basic loads and strategic configured loads in early-arriving task-force sets. Sustainment stocks must also be integrated into the deployment flow early to sustain first-arriving elements. Battlefield distribution will combine situational understanding

with efficient air and surface delivery systems to form a seamless pipeline, eliminating most stockpiles and substituting speed for mass.

IBCT Operations within a Division

To this point, this article has focused on brigade-level operations during an SSC. However, the IBCT is a full-spectrum combat force normally employed as part of a division. Given this employment parameter, the following section presents some initial, brief, analytically based insights into how the IBCT would operate within three division variants.

Light Division. When deployed as part of a light division, the IBCT extends the tactical mobility available to the division commander and increases the organic firepower available to support dismounted assaults. As the most mobile, lethal and survivable element within a light division, the IBCT is likely to be employed as the main effort within the division. It may therefore receive the larger share of divisional assets such as combat engineers to assist mobility in offensive operations, an aviation task force to expand combined arms capabilities and air defense systems to improve force protection.

Heavy Division. When deployed as part of a heavy division, the IBCT will almost certainly be the first brigade to deploy, facilitating prompt reception, staging and onward integration of the remainder of the division by consolidating and extending the security of air and sea ports of debarkation. With its high tactical and operational mobility and proficiency in urban and complex terrain, the IBCT adds dimension to heavy-division capabilities. However, given the differences between the IAV-based brigade and formations based on the M1 Abrams tank and Bradley fighting vehicle, the IBCT does require force tailoring for the heavy fight. When so task organized, primarily with armor, antiarmor, aviation, artillery, air defense, military police, engineer assets and CSS resources, the IBCT is a full participant in division operations. It can form part of the division's main effort, execute the supporting attack, act as the division reserve, conduct economy of force operations or conduct operations in urban and complex terrain while other division elements operate within open and mixed terrain. In short, the IBCT provides additional capabilities but also consumes capabilities of divisional slice elements.

Interim Division (IDIV). The IDIV is still in its initial phase of design and evaluation. Nevertheless, initial analysis indicates that the IDIV, encompassing three IBCTs (in some form) as its primary fighting components, will provide more broad-spectrum capabilities than the other two IBCT-embedded divisions. The IBCT-based IDIV will be optimized for employment in the initial phase of major regional contingencies under an Army Forces command. As the lead division for a joint contingency, the IDIV will deploy an early-entry IBCT within 96 hours, followed closely by the rest of the division. The IDIV will shape the battlespace in initial operations, alter conditions to prevent the enemy's early success, facilitate the arrival of follow-on forces and expedite decisive operations.

Corps-level Considerations

Analytical scenarios set in the Middle East, South Asia and Eastern Europe all suggest potential locations for smaller-scale contingency operations that would not necessarily require a division force. In these cases, the IBCT, augmented by corps assets, provides the warfighting commander in chief with early, dominant capabilities to deter, contain or decide the outcome of the contingency, allowing the corps and its divisions to retain focus and readiness for potential major theater war.

Clearly, the development of the IBCT will produce immediate improvement in the strategic responsiveness of Army ground forces. When fielded, the IBCTs will offer a new option for decisive contingency response. At the operational level, IBCTs will sharply enhance the joint force commander's ability to respond to opportunity and uncertainty. Equally important, the IBCTs will represent a clear near-term improvement in national and theater conventional deterrence, providing the National Command Authority the capability to place a credible and flexible combat force on the ground anywhere in the world within 96 hours. Finally, the accelerated development of the two initial brigades will also jump-start transformation without compromising the Army's ability to accomplish its most fundamental mission—fighting and winning the nation's wars. ***MR***

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IBCT at Fort Lewis

Major General James Dubik, US Army

IN MID-APRIL of this year, Major General James Dubik, Training and Doctrine Command's (TRADOC), Deputy Commanding General for Transformation, addressed students attending Fort Leavenworth's Combined Arms and Services Staff School and School for Advanced Military Studies concerning the ongoing efforts at Fort Lewis, Washington, to stand up the initial brigade combat teams (IBCTs). Responding to students' questions, Dubik explained the strategic imperative for transformation, the IBCT fielding process and the leader development challenges for these new units.—Editor

Why is the Army spending so much time, energy and money on transformation?

Major General Dubik: Army operations invest in global security, and transformation will help us do it better. In the 1990s, as the downfall of communism brought a rise of regional conflicts, the US Army witnessed a 300 percent increase in its operating tempo. It was called upon to preserve and restore peace in far-off places like Haiti, Somalia, Bosnia and Kosovo, to name only a few. We were asked to perform a myriad of missions, ranging from peacekeeping to peace enforcement to peacemaking and in the deserts of Southwest Asia, the country asked us to fight and win the last major war of the 20th century. The future looks like more of the same. So, while the threat of a major war has greatly diminished, the world remains a dangerous place, as regional instability, inflamed by ethnic hatred and religious fanaticism, gives rise to a new category of threats. If history has taught us anything, it is that somewhere, at some time, the United States will confront a regional, and eventually, a near-peer competitor, so we must prepare for that inevitability now. Our current force structure is strained and we need to retool to prepare for short-notice operations overseas, in areas with immature infrastructures incapable of accommodating the movement of our heavy forces, or in conditions not suitable for employment of our light forces.

There is no playbook. There is no answer book, except what we, as professionals, are willing to debate and discuss. . . . We welcome that argument—who would want to be in an organization where one guy says, "the world has changed, so everybody go march out that way?" These are important debates about not just the Army but also the security of the nation.

How will transformation improve the Army's response to these challenges?

The Army is committed to a new vision to better meet the challenges of this new operational environment. Last fall, Secretary of Army Louis Caldera and Army Chief of Staff General Eric K. Shinseki described this new vision, "to adjust the condition of the Army . . . transforming this most respected Army in the world into a strategically responsive force that is dominant across the entire spectrum of operations."

As the first step in the Army's transformation, two brigades at Fort Lewis—the 3rd Brigade, 2nd Infantry Division and the 1st Brigade, 25th Infantry Division—are being transformed into IBCTs. The Army is doing this to meet a near-term strategic requirement that now is absent, as well as to prepare the Army for the long term—2015 and beyond.

When you talk about transformation, what does that really mean?

Today, if the National Command Authority calls on the Army to send forces somewhere quickly, we can choose from Special Forces, Rangers and the 82d Airborne Division. Those forces will get there fast, and for certain kinds of jobs, they are all we will need to send. But if we need to send forces quickly with lots of combat punch, we have no

viable options. Conversely, if we need a lot of combat punch, we can choose from III Corps or V Corps, but these heavy forces take weeks to deploy. If we need to send a force with combat power someplace fast, we are out of luck. We cannot do it. So, there is a gap between the heavy and light forces that we need to fill; something that can get somewhere fast, that has more combat punch than a light force.

Does anyone think that our next mission will be in a first-world country? No, we will continue to go places with limited infrastructure, places that lack everything from major air- and seaports to railways, bridges and road networks. What use is a 70-ton tank on a class 10 bridge? Zero. All our combat power is useless if we cannot get it to the theater in time or maneuver it tactically. Right now our heavy forces have limited strategic deployability and our light forces have limited tactical utility. Transformation will take care of that disconnect.


Major General James Dubik

What use is a 70-ton tank on a class 10 bridge? Zero. All our combat power is useless if we cannot get it to the theater in time or maneuver it tactically. Right now our heavy forces have limited strategic deployability and our light forces have limited tactical utility. Transformation will take care of that disconnect.

The IBCTs are being designed, manned and equipped to fill the gap. Empowered with internetted communications and intelligence packages, an IBCT will be capable of deploying anywhere in the world in 96 hours to immediately begin operations across the full spectrum of possible contingencies.

The Army's transformation and the IBCTs at Fort Lewis are all about the future Army in a very real way, not about some theoretical Army. This future Army is being built today at Fort Lewis; Fort Monroe, Virginia; Fort Leavenworth, Kansas; Fort Knox, Kentucky; and many other forts and installations. The work being done now will ensure the Army is ready when it is needed in 2015 to face any potential foe, anywhere in the world.

How do you know that what you are doing at Fort Lewis is the right answer?

First off, realize that there is no guarantee to any of this. There is no playbook. There is no answer book, except what we, as professionals, are willing to debate and discuss. There is a lot of argument going on about this, no doubt about it. We welcome that argument—who would want to be in an organization where one guy says, "the world has changed, so everybody go march out that way?" These are important debates about not just the Army but also the security of the nation.

We must have informed discussions and make sure we get it close to right. We know we will not get it precisely right. But our job is not to get it so wrong that we hamstring the next generation of leaders. We have to get it right enough, so that in 2015, when the nation asks the Army to do something, it is flexible enough to accomplish any potential mission.

It is not like World War II when the United States had the opportunity to adjust its tactics after it saw what the Nazi blitzkrieg did in Belgium and France. We will have to come as we are, so we have to get this right enough to use.

The units at Fort Lewis have turned in their Abrams tanks and Bradley Fighting Vehicles. What if the Army is called upon to fight a mechanized foe?

These two brigades at Fort Lewis are the pathfinders, taking the initial steps so the rest of the Army can follow. However, as the Army begins to work its way toward the future, we must retain some of the current forces as well, the heavy and light legacy forces. We have to keep these while we transform as a hedge against potential trouble. The nation cannot throw these forces away because North Korea has not gone away; Southwest Asia has not gone away; the requirements for these forces around the world have not gone away. And so, we cannot erode this capability; we need to keep that warfighting capability, the forced-entry capability. We have to keep upgrading, recapitalizing, investing in these forces to maintain our superiority over any potential enemy while we are developing the organizations, doctrine and equipment that will replace them.

At the same time we are doing that, the Army has invested 1.3 billion dollars a year in science, technology, and research and development. We have asked scientists to develop materials for a vehicle that is lethal and survivable, but lighter and deployable, the kind of vehicle we will need for the transformed Army. Such a vehicle should weigh 20

Mark H. Milstein, Atlantic News Service

A US lieutenant presses a local Croatian commander to identify minefields and have his men stop firing at Serbian troops waiting to begin similar operations, December 1995. The unanticipated shooting and negotiations delayed the operation's start time by more than three hours.

to 25 tons and fit into C-130 aircraft so it can get anywhere. Yet, when it comes off the aircraft, it is not a light combat vehicle; it is as sustainable, lethal and survivable as the Abrams and the Bradley are right now. But that vehicle is not available now, because there is no technology to do it. We are looking for that answer by 2003.

Why not wait until industry develops the new technology? Why create new units now?

The Army cannot wait three years to begin creating the forces that will use these vehicles. If we want to have the Army we know the nation needs by 2010, we must start now to create the bridge to this future Army. That is what we are doing at Fort Lewis. This interim force—the first two brigades are called the initial brigade combat teams of the interim force—is not the final product. The final product is going to be in the future, once we get the answer from the science and technology community. But when the science and technology community comes forward and says, "yes, we can produce it," we want the change as quickly as we can. Therefore, by 2003, when more of the new brigades begin coming on line, we will need to have the leap-ahead technologies ready.

So, part of the change will be the technology side of it, but again, we are talking about more than just vehicles. The other essential parts involve the doctrine, the organization and the training systems. How do we develop those? We develop them by starting with what we are doing right now at TRADOC installations and Fort Lewis.

Adaptive leaders can operate across the full mission-spectrum and solve problems they have never seen before. We are asking company commanders and platoon leaders to do things now that we used to think only battalion commanders could do. That means we have to increase the number of experiences for lieutenants and further increase the number of experiences for captains.

As we develop the IBCTs at Fort Lewis, train them and get the doctrine right, we will be producing the doctrine and training that we need for the objective force. This parallel effort will shorten the time between 2003 and when we think we can get the first units of the objective force (we hope as early as 2008). If you look at history, you will see that this cycle is normally 15 to 20 years, and we want to do it in less than 10. We have cut at least five years out of the normal cycle, so this is very fast, and it is unnerving to some people.

What about those who say the Army is moving too quickly? Should we do more testing to ensure we get it right?

The time for testing is about over. This process began with the Louisiana Maneuvers in 1992 and has continued with the Advanced Warfighting Experiment and the Experimental Force, Force XXI and Army After Next. We have done a great deal of testing and it is time to take the next step.

Even so, some people are skeptical. It is painful for those who have to redesign organizations, rewrite lesson plans and retool the training base. Much

of what we are up against is not technology but mindsets, institutional obstacles. The institutional piece has to change along with the actual units.

The way the Army raises, trains, assigns, educates, equips and sustains the force must align with how we fight it. Command and control structures will change. Staff functions will involve network architectures and worldwide communications that make reachback support a reality. The notion of what constitutes the brigade support area will be fundamentally different. It will include the intermediate staging base and even the Continental United States. Half of the Army generates combat power, so the other half can use that combat power. As we change the way we use combat power, the way we generate that power must change too. Thus, the Army must start to change the whole way it supports itself. That is a big change to the way we think about and conduct business. Part of what we are doing involves breaking the bureaucracy and rebuilding it for the new force. To accomplish everything that had to be done, the Army's leadership has published a road map and a timeline. Now we are executing.

One of the big organizational benefits is the presence of a reconnaissance squadron in the brigade, one with embedded human intelligence, one tied to aviation and unmanned aerial vehicles, and artillery and engineers through the connectivity of the network architecture. . . . This network-centric warfare multiplies the brigades' combat power. I think we will see that the network is a bigger piece of the transformed units than the hardware.

Focusing on the effort at Fort Lewis, how did the Army decide what the IBCT should look like?

The process started even before the new IBCTs were created. First, an operational concept and organization had to be developed. Derived from the kind of environment we saw the unit operating in, the kind of characteristics that we wanted in the force and the capability that we needed, planners at Fort Leavenworth drafted the operations and organization (O&O) concept with help from other TRADOC centers and schools.

In reviewing the operational environment, two things remain constant—Korea and Southwest Asia. The Army must be able to fight in these places. If a force is required to do that, we have got to retain heavy forces. Then, while we retain enough forces to do that, there are the things we have had to do since the end of the Cold War, the smaller operations. The Army cannot choose either this or that; it must be ready and able do all of it. Which one is going to be next? Nobody knows. But recent operations are examples of what is going to be in the future, so we have to be prepared for those kinds of things. It is not that we want to do Kosovo better. But, what is the future Kosovo? What is the future Bosnia? What is the future Somalia? We do not know what they are, but we know they are going to be out there. We have got to take that into account in the force structure and in the way we train.

What does the operational environment say about us? Well, first thing, we have to be fast. Right now, we can get there with all the required combat parts, but we will get there in about four or five months. That was okay in Europe during the Cold War when we had 300,000 people in Europe who could react, and we had another three divisions worth of equipment parked in Belgium, so you could soldiers fly over to man it. Today, we have equipment parked in Kuwait and Korea. But where is the next fight going to be? We do not know. The next Sadaam Hussein is not going to wait six months to attack. Whoever the next thug is has already learned that. So, speed is essential for us now; that is why the objective force has to have a vehicle as fearsome as the Abrams, but as deployable as the HMMWV [high mobility, multipurpose wheeled vehicle].

Additionally, there is a range of different mission sets. The missions that I had in my brigade going into Haiti were different from the 1st Cavalry Division mission when I went into Bosnia, which was different from the 1st Infantry Division's mission in Kosovo. These slightly different mission sets have training implications. It was easy during the Cold War: the mission set was to fight the Soviets and win. You divided your mission essential task lists, you trained to those lists, against that enemy, against that scenario. You filled these data books with known information—where your defensive area was going to be, how many rounds you were going to fire. That was easy compared to what we are doing now.

Combat power is what you can bring to the fight, so the infrastructure of where we are going to go fight must be considered in designing the force. If we need lethal, survivable 25-ton future combat systems, that also will affect how the force will operate and should be organized. Obviously, the environment and infrastructure have a great deal to do with the way we are building the interim force.

After considering the environment in which the Army will operate, what kind of concepts and qualities do we want for this force? When the United States sends the Army, we go there to force somebody to do something. Our success depends on

We have to remember something simple but important: Making history is messy. Studying Normandy today looks like arrows and unit symbols. Normandy on 6 June 1944 looked like *Saving Private Ryan*—dangerous and chaotic.

the certain ability to impose our will. Combat capability is why we are in the mission, whether peacekeeping or peace enforcement. People must be afraid not to obey us.

By joining some of the strengths of the heavy force and some of the strengths of the light force, the IBCT can get there fast with the necessary combat power. We are merging cultures and the strengths of these forces into new operational capabilities. The Army leadership chose Fort Lewis partly because it is home to both a heavy brigade and a light brigade. Both are going to be transformed into interim brigades. By using some of the best of both, we are creating an overmatch. We are not interested in a fair fight. When we fight somebody, we want to win so that is the capability we want to have for the IBCTs.

What is the timetable for standing up these new units?

The first IBCT to transform to the new design, the 3rd Brigade, 2nd Infantry Division, is scheduled to achieve its initial operating capability (IOC) by December 2001. The second IBCT, the 1st Brigade, 25th Infantry Division, is currently scheduled to achieve its IOC by December 2002.

How are the IBCTs organized?

The IBCTs are organized primarily as mounted infantry-heavy organizations with high tactical mobility and robust dismounted assault capability. Major subelements within the brigade include three mounted infantry battalions, each composed of three combined arms rifle company teams; the reconnaissance, surveillance and target acquisition (RSTA) squadron; and antitank, artillery, engineer, signal, military intelligence and support elements. Additionally, the IBCT will have enough "hooks" for augmentation so that if it needs a particular capability it can readily integrate the appropriate armor, aviation, engineer or civil affairs units, for example.

One of the big organizational benefits is the presence of a reconnaissance squadron in the brigade, one with embedded human intelligence, one tied to aviation and unmanned aerial vehicles, and artillery and engineers through the connectivity of the network architecture. All brigade commanders would like to have those kinds of capabilities—and they will. This network-centric warfare multiplies the brigades' combat power. I think we will see that the network is a bigger piece of the transformed units than the hardware.

There has been some misunderstanding about the whether the interim brigades will be equipped with tracked or wheeled vehicles. What can you tell us?

The short answer is: we do not know. That is part of the science and technology piece. However, we cannot wait for the new equipment to begin evaluating and refining the O&O concept. Currently, soldiers are training with light armored vehicles on loan from Canada, pending selection and fielding of the interim armored vehicle later this year. The loaner vehicles allow us to develop tactics, techniques and procedures (TTP) now and begin training, instead of having to wait for the delivery of our new initial armored vehicles next spring.

However, transformation is about more than getting new vehicles. As we develop the TTP, we are

coping with a changed strategic paradigm that has shifted from "alert, train, deploy" to "train, alert, deploy." Instead of "make contact, develop the situation, maneuver the force," we will have to "exploit technology and understand the situation, maneuver the force and—only then—make contact." Likewise, our decision processes will change from a hierarchical, sequential, planning-centric model in which leaders are important to a parallel, collaborative, execution-centric one in which leaders are essential. We have to change the way we train to maximize this capability.

With a new O&O concept, new vehicles and new TTP, will the training program be different from other units?

The training methodology developed for the IBCTs was founded on several guiding principles. First, derive a centralized training task list from the O&O concept for each echelon from squad through brigade. We decided to use draft, updated skill manuals and mission training plans derived from the common task training list to begin developmental training. Subtasks, conditions and standards were adapted from current doctrine to align with the O&O concept. Second, training should seek to retain the light infantry ethos of physical and mental toughness. Third, develop digital proficiency early and sustain it. Fourth, use time wisely by creating a multiechelon (simultaneous), iterative (sequential) training plan. Fifth, link developmental training to operational training. Sixth, identify the proper balance of live, constructive and virtual training. Last, and most important, train leaders first because they are the trainers.

We know for sure that the leader business is important, because units are characterized by their leaders. Leaders in the IBCTs will have to understand a new way to fight and be motivated to fight that way to provide the adaptability and versatility the O&O concept demands. We decided from the beginning not to rely on external trainers. Leaders will train their own units—platoon leaders training platoons, company commanders training companies, battalion commanders training battalions. To do that, first, you must make leaders experts in the training methodology and the doctrine. Initial leader training needs to be conversion training to educate leaders to execute training relative to the IBCT O&O and not their former experience.

We have a training program specifically for IBCT senior leaders to teach them how extraordinary the IBCT is. Taught at the proponent centers, the program focuses on IBCT O&O performance-oriented training to fight the organization. It also provides leaders with an understanding of the concepts and gives them the necessary tools, knowledge and skills needed to operate and fight differently.

What kind of roadblocks have you encountered?

While we faced many basic questions, the uncertainty was a challenge, not a roadblock. New doctrine was being written as the IBCTs were taking shape. How much focus on the company? On the platoon? That is the reality of changes that we are making. We developed a data collection plan for each training event during developmental and operational training focusing on O&O-unique behaviors. After each training iteration, we provide feedback to the schoolhouses so that doctrine can be updated based on what we are learning. We figured it out.

Transformation is about more than getting new vehicles. As we develop the TTP, we are coping with a changed strategic paradigm that has shifted from "alert, train, deploy" to "train, alert, deploy." Instead of "make contact, develop the situation, maneuver the force," we will have to "exploit technology and understand the situation, maneuver the force and—only then—make contact.

Uncertainty is not something to fear. If you are comfortable with peacetime uncertainty, you will be better prepared for the uncertainty of war. War is not predictable or stable. It is chaos. So if leaders are uncomfortable with a little bit of change, they will also be uncomfortable with their primary mission. Leaders have to hook up with ambiguity, loosen up with uncertainty. So when we train leaders, and we have a very good training program for them, we have to invest the time at the very beginning.

How is leadership different in the IBCTs?

The distributive and decentralized operations of the O&O require leaders to use initiative within intent—leaders who can create cohesive units that thrive in high-tempo, dispersed operations. Such adaptive leaders can operate across the full mission-spectrum and solve problems they have never seen before. We are asking company commanders and platoon leaders to do things now that we used to think only battalion commanders could do. That means we have to increase the number of experiences for lieutenants and further increase the number of experiences for captains. We have to do that in the same amount of time. The amount of time that captains will be in command will not change; that is a function of inventory, so the only option available is to better use the time while officers are in command. That is the real key, and to do that we have to leverage three things: a tactical leader program; multiple iterations during simulations; and professional development in units that includes re-

petitive opportunities, constant coaching, nested vignettes and individual study.

Before taking command, officers will go through a five-week tactical leader program. While in command, officers will receive repetitive professional development on how to fight their organizations. Company commanders and platoon leaders will be trained to fight at the company level. Platoon leaders will train with team leaders. No one leads alone; we fight together as a command team, so we will train that way.

Officers are concerned that they will spend too little time in command. How can they gain the kind of experience that you say is necessary?

Experiences come from three significant places—personal experience and the experience of peers and seniors. Using the nest concept, company commanders will train themselves, their platoon leaders and squad leaders in a net. Also, they will be part of the battalion commander, company commander and platoon leader net and part of the brigade commander, battalion commander and company commander net. That training will go on every quarter for three to six days with four to six repetitive vignettes per day, further increasing everyone's experience base. By nesting leadership that way, leaders will gain experience and learn how to solve problems. They will learn from peers, superiors and subordinates.

Second, officers will learn through the use of simulations. For the first couple of brigades, it will be primarily constructive simulations. Leaders can go through four or five iterations of the same kind of problems, whereas out in the field, there would be time and resources for only one scenario.

Third, officers will learn through history in a professional reading program. By studying the experiences and lessons from those who went before, officers can learn without making the mistakes that cost lives and destroy equipment.

Many officers are concerned that this is too much, too fast for an Army that is too busy. Could this be the right idea at the wrong time?

There never will be a great time for major change. Crises arise and we cannot say "no" to the National Command Authority. If the President says, "Go to Kosovo," we do not say, "Gee, we are kind of busy." And when he says, "Remember, besides Bosnia you have to train for major theater war," we do not say "Hey, we could sure use a break." If things heat up in East or Southwest Asia, the call is not, "Are you ready?" It is simply "Go." To be ready for the spectrum of contingencies, we need transformation, all the while staying ready for major theater war.

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As we change to meet those requirements we have to remember something simple but important: Making history is messy. Studying Normandy today looks like arrows and unit symbols. Normandy on 6 June 1944 looked like *Saving Private Ryan*—dangerous and chaotic.

For some this is mostly a time of high anxiety; for me it is also high adventure. Times have changed and we have to adjust, but war has a future and we still have a job to do.

We exist to force people to do something. Combat capabilities are essential across the spectrum because terms like peacekeeping and peacemaking are deceptive euphemisms—what we do is all about force. Part of the trouble in places like Kosovo often comes down to the absence of legitimate force to maintain peace and order. We are committed to remain relevant, able to respond quickly and provide the appropriate forces for such contingencies.

The Army we are working on is for the captains and majors who will be brigade and division commanders in 2015. When a business wants to overhaul its sales structure and move from showrooms to web-based marketing, it calls in outside technical innovators. We cannot do that in the Army, we have to grow our own experts. The people who will lead the objective force in 15 years are already serving and growing and changing the Army. ***MR***

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Adaptive Leaders and the Interim Brigade Combat Team

Colonel Kent E. Ervin, US Army, and
Lieutenant Colonel David A. Decker, US Army

THE ARMY'S TRANSFORMATION is spearheaded by the formation of highly deployable interim brigade combat teams (IBCTs). The dynamic and evolving organizational and operational (O&O) concept calls for fielding the first two brigades now: 3rd Brigade, 2d Infantry Division followed by 1st Brigade, 25th Infantry Division at Fort Lewis, Washington, designated as the initial brigade combat teams. They will keep this designation through the early transformation processes until they receive vehicles and equipment that will be rapidly selected and produced by an abbreviated materiel acquisition process. That process began with a "drive off, shoot off, fly off" in summer of 2000.

The impetus for accelerating development of this new capability brought by the IBCT is coming from powerful external sources. The House Appropriations Committee's Defense Subcommittee recently added $1.1 billion to President William J. Clinton's fiscal year (FY) 2001 budget request for Army transformation, including an additional $800 million to equip the second "medium" brigade. The subcommittee will suggest that Congress direct the Department of Defense to fund two medium brigades per year.[1] With this appropriation for the IBCT in FY 2000 and FY 2001 comes the challenge of producing adaptive leaders required by the IBCT O&O concept.

Several general officer steering committees prioritized funds for the IBCT effort. What emerged was a prioritized list of functions without which the risk for failure was unacceptably high. Topping the list were the Senior Leaders Course (SLC) and the Tactical Leaders Course (TLC).

The SLC is a five-week course for IBCT senior leaders conducted at Fort Lee, Virginia; Fort Huachuca, Arizona; Fort Knox, Kentucky; Fort Benning, Georgia; and Fort Leavenworth, Kansas. Before the SLC began, an adaptive-thinking, train-the-trainer course for school instructors was held at Fort Leavenworth. Key SLC objectives are to "introduce adaptive-thinking exercise methodology/

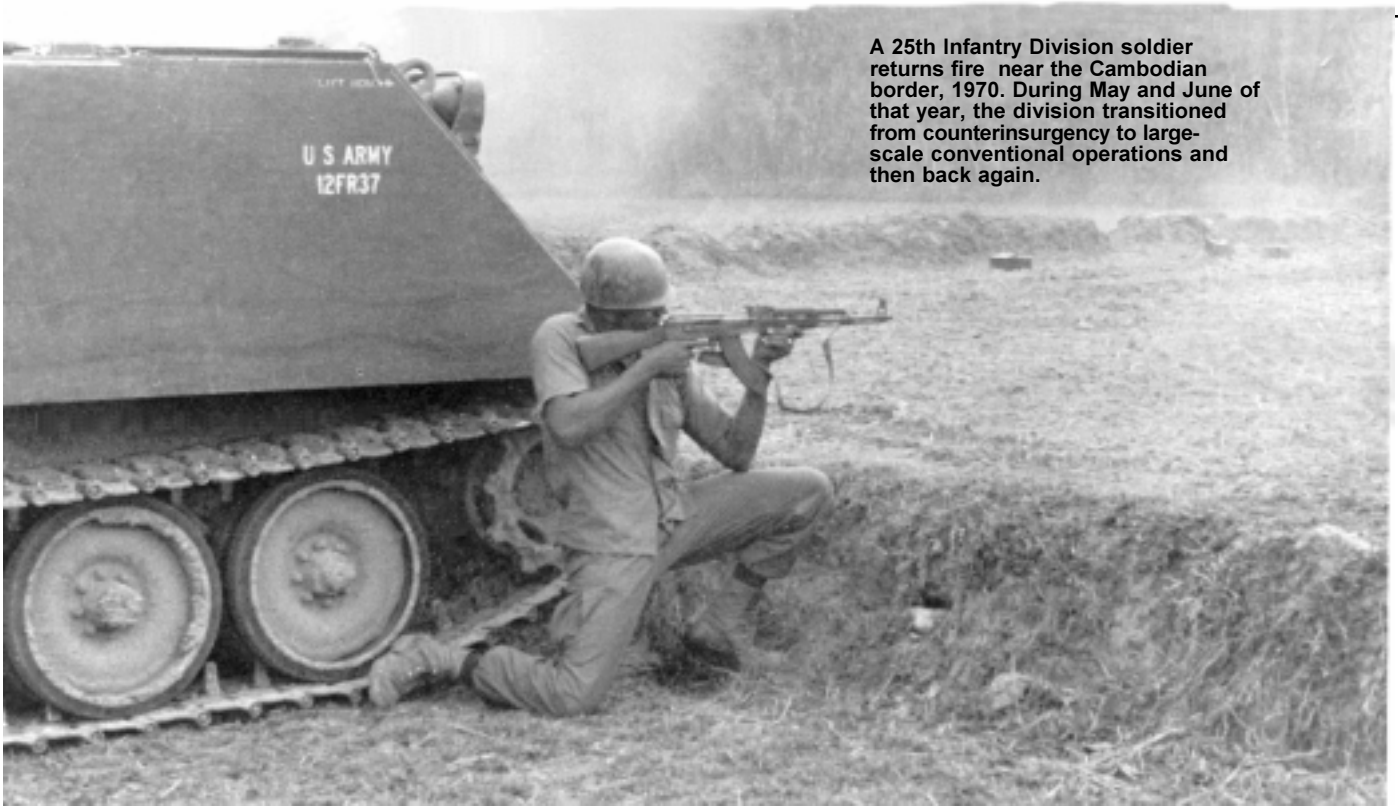
Does the Army currently have street-smart specialists for unusual deployment locations such as New Caledonia? Adaptive leaders are key to compensating for shortfalls that cannot be predicted and compensated for by application of doctrine, training, leader development, organization, materiel or soldiers.

probes to stretch commanders and staffs in a dynamic environment" and "provide IBCT senior leaders an understanding of how to leverage . . . situational understanding and optimize decision-making capabilities."[2]

The seven-day TLC engages IBCT battalion- and company-level leaders in instruction at Fort Lewis (except for military intelligence and signal personnel). Key topics for explication are situational understanding, small scale contingencies (SSCs), a variety of threats and the meaning of combat power.

This article addresses the heightened emphasis on developing adaptive leaders for the challenges of future operating environments. The current operating environment is formidable and extremely fluid, with continually changing coalitions, alliances, partnerships and appearing and disappearing actors (both national and transnational). Complex terrain and urban environments with civilian populations and infrastructure increasingly complicate areas of operations (AOs) with aspects of humanitarian crises. The importance of the widespread presence of information architecture, systems and organizations, both private and public, cannot be overstated. The global flow of information, technology, knowledge and power now create a fruitful environment for all facets of information operations: information use, dissemination and information warfare.

Technological advances, diversity and access are generating changes in force structure and methods of operation—and creating conditions for technological surprise. This environment has eroded the



US Army

A 25th Infantry Division soldier returns fire near the Cambodian border, 1970. During May and June of that year, the division transitioned from counterinsurgency to large-scale conventional operations and then back again.

Examples highlight the adaptive-thinking requirements demanded by rapid mission changes. In 1970 elements of several US and South Vietnamese divisions entered Cambodia . . . to deprive the North Vietnamese army staging areas from which to attack Saigon. Counterinsurgency involving mines, boobytraps and small-unit ambushes quickly turned into a more conventional fight with enemy units up to regimental size. . . . There were no Cambodian interpreters or reliable maps and only scant information relative to vital aspects of the AO. . . . The bulk of the troops were individual replacements.

US technological overmatch. Cultural and demographic factors that transcend borders make conflict resolution a complicated and lengthy process, often requiring several changes in the nature of an operation before an end state can be achieved."[3]

Both the SLC and TLC address these complexities, using scenarios that offer insights on the degree and depth of adaptability necessary in IBCT leaders. Recent examples highlight the adaptive-thinking requirements demanded by rapid mission changes. During May and June 1970 elements of several US and South Vietnamese divisions entered Cambodia in the Sanctuary Counteroffensive designed to deprive the North Vietnamese army staging areas from which to attack Saigon. Counterinsurgency involving mines, boobytraps and small-unit ambushes quickly turned into a more conventional fight with enemy units up to regimental size. To complicate matters, there were no Cambodian interpreters or reliable maps and only scant information relative to vital aspects of the AO. The decentralized conflict often required platoons to operate independently. Cohesion was further fragmented. The bulk of the troops were individual replacements, many only recently arrived in country. After two months of mostly conventional confrontation, US troops returned to South Vietnam and a more unconventional fight. To survive, much less flourish, adaptability and creative thinking at all levels (particularly small-unit) were absolutely essential.[4]

The US operation in Somalia is also worthy of reflection. Initially, US forces were primarily involved with protecting convoys delivering food to Somalis, who were only a symptom of the core problem. When the root cause surfaced, the mission expanded to capturing the warlords responsible for the starvation. A series of missteps as the operation transitioned resulted in withdrawal without mission success. Potential adversaries took note of how the US handled the mission transition.

Both Cambodia and Somalia exemplify the SSC segment of warfare, involving major theater war (MTW) on one end of the spectrum and military operations other than war (MOOTW) on the other. SSCs are the primary mission-focus of the IBCT, although the brigade is designed to dominate the full spectrum. These SSCs presumably form the most probable future threat and merit more detailed scrutiny.

Recent SSCs (such as Kosovo, Panama and Bosnia) have occurred in regions with weak transportation infrastructures and in complex terrain with large urban areas and diverse weather patterns.

These areas are characterized by overpopulation, poverty, disease, internal rivalries and governments unresponsive to or incapable of dealing with complex social, economic and political problems. Increasingly, when thrust into these regions, US and coalition forces confront diverse threats.

The array of threats may range from an individual terrorist to a well-equipped motorized infantry regiment. Within this spectrum, coordinated or isolated attacks by guerrillas can occur and paramilitary or special-purpose forces may align with police or militia elements. Often, the conventional threat will not be capable of long-term, sustained, high-tempo combat. In a conventional fight the United States possesses a significant overmatch of warfighting capabilities across the spectrum of conflict. Any thinking opponent will not likely seek to fight force on force. However, The United States cannot always apply the full scope of its military capabilities, particularly in SSCs and MOOTW, where coalition partners and other considerations exist.[5] These other considerations pose potentially sinister scenarios in which adversaries employ asymmetric strategies.

HUMINT assets play a crucial role in SSCs by developing a sense for the AO like the street smarts of a beat cop or detective. They learn the formal and informal political power structure, law enforcement and intelligence agencies, criminal enterprises, military and paramilitary structures, terrain and sensitivities of the populace. Soldiers and leaders of the RSTA squadron may be in frequent contact with the populace and local government officials as they conduct operations.

Asymmetric strategies will directly or indirectly target US and coalition vulnerabilities. Using a variety of tactics involving deception, propaganda, guerrilla warfare, terrorism and diplomacy, our adversaries target critical variables that might be considered centers of gravity. These centers range from regional and global relationships and economics to information, technology and military capabilities.[6] Optimally, prior to entry, adaptive leaders are armed with an awareness of the AO, including threat proclivities and capabilities. Yet, how probable is it that the IBCT commander, who just received the mission, and must be in theater fully ready to act within 96 hours of liftoff, has this awareness of the AO? How sure can he be that the conditions within the AO will not change rapidly, potentially invalidating assumptions and current courses of action?

The IBCT's adaptive leaders' situational understanding is rapidly enhanced through an array of assets ranging from unmanned aerial vehicles (UAVs) to satellite imagery to a significant increase in organic human intelligence (HUMINT) capabilities. IBCT designers discovered that SSC threats require emphasis on HUMINT over more-sophisticated sensors and collection platforms.[7]

The IBCT's RSTA squadron is the central organization responsible for providing combat information (with HUMINT provided by a robust organic military intelligence company) to build the knowledge base necessary to achieve situational understanding. This includes an in-depth understanding of local and regional nonmilitary factors that typically influence the outcome of operations within an asymmetric environment.[8] As the IBCT O&O evolved, the RSTA focus went from situational awareness to situational understanding, a more complex and profound level of knowledge.[9]

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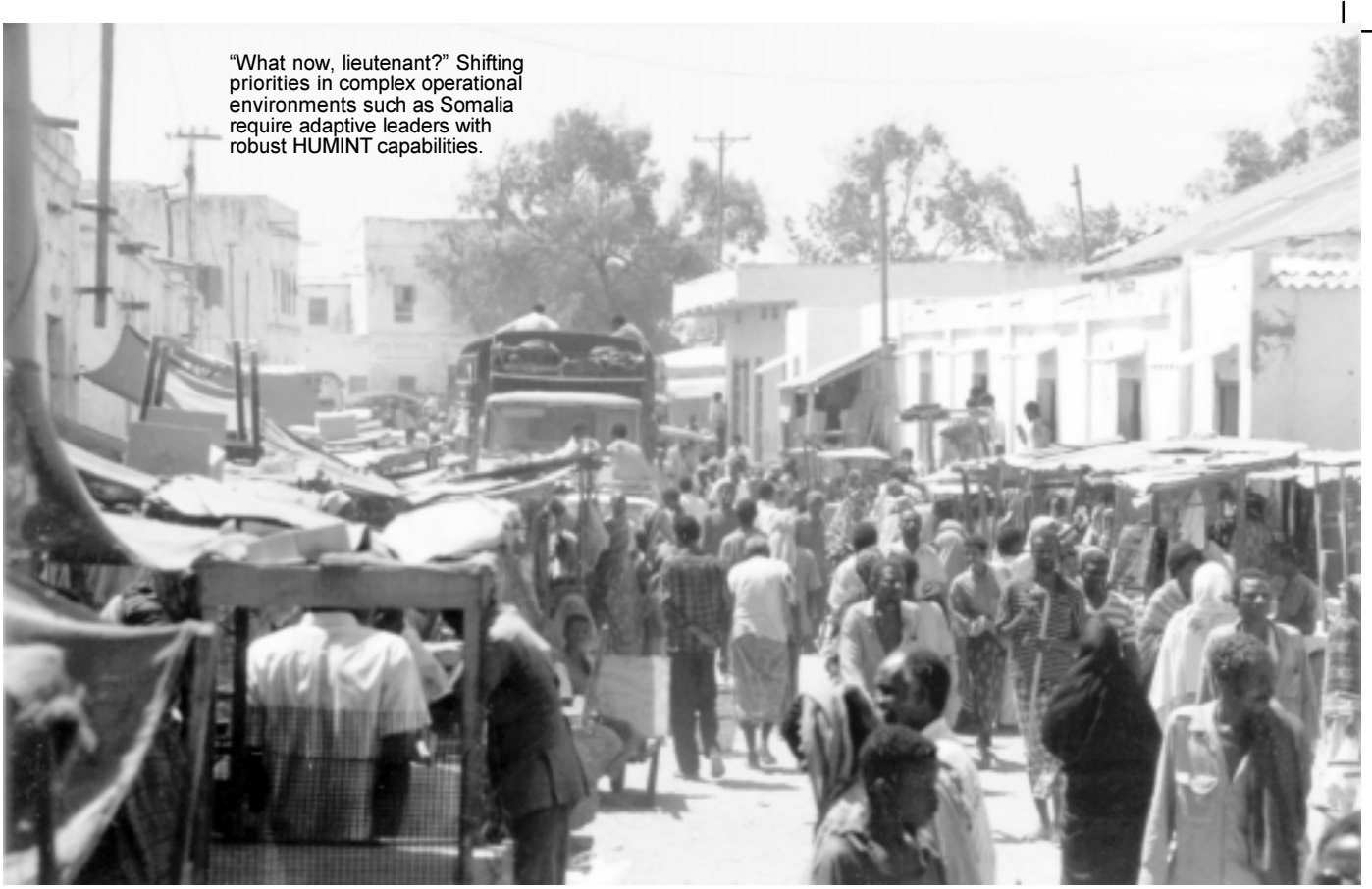
RSTA HUMINT assets are only part of the IBCT's organic military intelligence (MI) assets.[11] The IBCT MI company provides a robust tactical HUMINT (TAC HUMINT) capability with an S2X team (one major, two warrant officers and two sergeants first class). This element provides a dedicated mission management function in TAC HUMINT collection. It coordinates the TAC HUMINT collection, analysis and dissemination with the commander's requirements and delivers usable products in time to influence his decision making. The IBCT will deploy with a higher headquarters making it possible for the S2X section to work closely with the G2X (Army Force) or J2X (Joint Task Force) to ensure HUMINT in-theater complements and supports the IBCT commander's intelligence requirements.[12]

The TAC HUMINT platoon consists of two operational management teams (OMTs) and eight HUMINT teams. The OMTs coordinate directly with the S2X to identify collection requirements and provide technical guidance and control to the TAC HUMINT teams. Each OMT is lead by a warrant officer and two noncommissioned officers. The



"What now, lieutenant?" Shifting priorities in complex operational environments such as Somalia require adaptive leaders with robust HUMINT capabilities.

Marine Corps Gazette

The US operation in Somalia is also worthy of reflection. Initially, US forces were primarily involved with protecting convoys delivering food to Somalis, who were only a symptom of the core problem. When the root cause surfaced, the mission expanded to capturing the warlords responsible for the starvation. A series of missteps as the operation transitioned resulted in withdrawal without mission success. Potential adversaries took note of how the US handled the mission transition.

TAC HUMINT teams provide general support to the IBCT or direct support to the OMTs. In the general support role, the S2X provides tasking and mission guidance. In the direct support role, the OMTs provides tasking and mission guidance.[13]

Can the Army train, educate and retain a qualified cadre of institutional instructors and experienced HUMINT soldiers capable of generating the required intelligence products for the IBCT? The rank structures in the RSTA squadron and the MI company indicate that relatively junior officers and noncommissioned officers are entrusted with rapid, in-depth and coherent intelligence collection, production and dissemination. To address these concerns, the designers of the brigade might suggest that higher headquarters provide additional assets or plugs (such as civil affairs or psychological operations personnel) should the need arise.

If a certain level of expertise (in-depth understanding of nonmilitary factors) is required by the RSTA in the early stages of the deployment, augmentation by a very knowledgeable group is a certainty. But does the Army currently have street-smart specialists for unusual deployment locations such as New Caledonia? Adaptive leaders are key to compensating for shortfalls that cannot be predicted and compensated for by application of doctrine, training, leader development, organization, materiel or soldiers.

Assuming the requisite RSTA and MI specialists are available and in-theater to arm the IBCT commander with situational understanding, what more is required for success? Adaptive leaders must understand the parameters of the threat, how success is defined and who might affect the outcome. Threats will not necessarily be a classic opposing military force but could include other interested parties in an expanded area of interest. How might the selected course of action play in Peoria or London or among the host or neighboring populations? What impact will the IBCT commander's decision have on success in the mid- to long term for a developing area? If this cross-cultural, holistic sensitivity seems too much to ask of the IBCT commander, remember in a complex environment, leaders must remain open-minded to mitigate risk to the mission and the force.

Adaptive leaders develop through increasingly challenging scenarios (a training support package with a menu of complex vignettes) that the leader

Adaptive leaders develop through increasingly challenging scenarios (a training support package with complex vignettes) that the leader presents for analysis and resolution. The Army's commission-producing institutions must initiate an adaptive-learning continuum that instills an open-minded and curious approach to a leader's duties.

presents for analysis and resolution.[15] The Army's commission-producing institutions must initiate an adaptive-learning continuum that instills an open-minded and curious approach to a leader's duties. Officers' basic and advanced courses together with Combined Arms Service and Staff School, US Army Command and General Staff College and the US Army War College must provide the necessary follow-on steps to ensure successive approximations of the desired end state (adaptive leaders).

When the Army's training and education transforms and produces a career-long, adaptive-learning series of increasingly complex courses, commanders at all levels must contribute by providing interim support as they grow their subordinates. The Army's organizational and strategic leaders must ensure command and training guidance sustains this fledgling effort to produce adaptive leaders. The IBCT's SLC and TLC will not produce the desired results without support and sustainment.

The Army's leader development model must keep pace with dynamic requirements to effectively educate and train high-quality leaders.[16] Organizational and strategic leader skills are required earlier in leader roles. Major General James M. Dubik, Deputy Commanding General for Transformation, Training and Doctrine Command, places the challenge on the Army's education and training base: "Thinking soldiers and leaders—using their creativity, imbued with an aggressive and disciplined spirit, and molded into cohesive units that trust one another—win wars. Realistic training creates these kinds of soldiers, leaders and units. Training translates technology's potential into actual combat power."[17]

The IBCT training O&O defines the adaptive leader as "one who is innovative and displays initiative with prudent risk taking. This leader exploits information-age situational understanding and is an agent of change."[18] Even if we start now, it will take three or four generations of soldiers for our Army to have the requisite number and quality of adaptive leaders. ***MR***

NOTES

1. *Defense Daily* (12 May 2000), 1.
2. IBCT SLC Capstone Exercise Process Action Team (PAT) Briefing (Fort Leavenworth, KS: Command and General Staff College, 23 Mar 2000), 4.
3. Training and Doctrine Command (TRADOC) White Paper, "Capturing the Operational Environment" (Fort Leavenworth, KS: Deputy Chief of Staff for Intelligence, TRADOC, 2 Feb 2000), 4.
4. Lieutenant Colonel David Decker was a platoon leader with the 1st Battalion (Mechanized), 5th Infantry, 25th Infantry Division in Vietnam, during this period. He relies on his memory in this characterization of the operational environment. This article is dedicated to all the "Cambodian Bobcats" with fond remembrance.
5. TRADOC White Paper, "Capturing the Operational Environment," 8.
6. Ibid., 9-10.
7. *IBCT O&O Concept*, Version 4.0 (Fort Leavenworth, KS: TRADOC Analysis Center, 18 Apr 2000), 10. TRADOC Analysis Center together with multiple schools and centers were involved in a comprehensive analytic effort that produced the IBCT O&O.
8. Ibid., 15.
9. Notes from the Requirements Review Council (Fort Knox, KY: US Army Armor Center and Fort Knox, 11 June 2000), L25.
10. *IBCT O&O Concept*, Version 4.0, Chapter 7, 10.
11. Ibid., 6-30.
12. Ibid., 15.
13. Ibid., 17.
14. Ibid., 17-18.
15. *Training O&O for the Interim Brigade Combat Team*, Chapter 4, Section 4-3, "Leader Training Implications in the Brigade" (Fort Leavenworth, KS: Assistant Deputy Chief of Staff for Training-West, Collective Training Directorate, 18 April 2000), 22.
16. Ibid., 23.
17. Ibid.
18. Ibid., 20.

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A Common Understanding for Transformation Brigades

Major Michael Boller, US Army

AS DAWN BREAKS over the countryside, 1st platoon leader of Recce Troop, Reconnaissance, Surveillance and Target Acquisition (RSTA) Squadron, 1st Brigade Combat Team (BCT), surveys the sparse green vegetation from the turret of his interim armored vehicle. He reviews his mission—a route reconnaissance in support of a humanitarian relief effort. The platoon's mission is clear—reconnaissance of main supply route 1 (MSR 1) from the brigade support area (BSA) to the city of Archambault. He quickly reviews the terrain on his Force XXI Battle Command Brigade and Below (FBCB2) system, noting a single bottleneck—the bridge over the river Heade. His common picture display shows a tactical unmanned aerial vehicle (TUAV) symbol approaching the bridge. The platoon leader unsuccessfully scans the skies for a glimpse of the TUAV and then continues his reconnaissance.

The TUAV operator for the RSTA Squadron is also interested in the bridge over the river Heade. In fact, it is a high priority in her collection tasks. As the TUAV comes within visual range of the bridge, she instantly realizes the bridge has collapsed. She enters this information and imagery taken from the TUAV's on-board camera into the Army Battle Command System (ABCS).[1] The brigade has anticipated this event. When the TUAV operator enters this information, several events occur simultaneously:

- The platoon leader observes the change in status of the bridge through the common picture display of his FBCB2 system. He immediately changes his route reconnaissance to a predetermined alternate route.
- Convoy 7, enroute from the BSA to Archambault, also receives the change to the MSR through a common picture display. The drivers change their route to the alternate, chosen by the platoon leader. As they make the turn onto the new route, their position and intention pass throughout the brigade.
- The engineer company commander also sees that the bridge has collapsed. He clicks on the bridge icon and pulls up the TUAV graphics. After examining the damage to the bridge, he tasks one of his platoons to get MSR 1 operational again.
- One of the BCT infantry battalion commanders sees the shutdown of MSR 1 on his FBCB2. He implements a digital fragmentary order (FRAGO) that assigns Alpha Company the mission to immediately secure an alternate logistics point and Charlie Company the mission to support the engineers repairing the bridge.
- The G3 sees his subordinates' initiative on a large-screen display inside of the BCT tactical operations center. He issues instructions to his staff to support their initiative and plan for new contingencies.

The ability of the BCT to execute the tenets of war with this speed comes from three factors: a shared situational understanding of the battlespace, the ability to collaboratively plan and knowing the commander's intent. This article focuses on what is required to provide the BCT with the situational

Imagine a damaged bridge. Is it a four-lane concrete bridge that a tank could not cross, or is it a rickety wooden footbridge that a soldier could not cross? While briefing the commander of the 3rd Fleet on the need for common data, I used the "damaged bridge" analogy. He responded, "What are you talking about? A bridge is where I command this ship. A tank is either salt- or freshwater. And what is a tank doing on my bridge?"

awareness necessary to obtain situational understanding or the "common picture." The common picture provides warfighters the status, activity and environmental information of their battlespace.

The Common Picture

A common picture is worth a thousand words. Other terms such as common operational picture , common tactical picture, common relevant operational picture and a common relevant picture attempt to describe a common picture—but all miss the mark.

One definition of a common picture is a user display, based on common data, displayed by user

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choice and with known accuracy (source, reliability and precision). Think of the common picture as an automated situation map tailored to individual needs. The common picture can share a wealth of information from multiple sources, so all viewers have a clear, shared understanding of the situation. This fused picture requires data from multiple sources to allow a trained user to achieve common situational understanding.

Simply sharing a picture is not sufficient for understanding. Everyone using the common picture must have the same understanding of the symbology, confidence in its accuracy and use the same data to build the picture. Such coordination requires common data, information requirements, a transport (communication) mechanism and the display requirements for the mission.

Common data. The common picture is not a snapshot or a static image electronically mailed around the battlefield but a dynamic display of common information. The common picture is not called "common" because it is the same display (picture) at all locations but because everyone uses the same data—from the commander in chief to the soldier in a fighting vehicle. Users select required data (fuel status) and how they want it displayed (pie charts or bar graphs). Regardless of the display, the data remains common between all of the users. This data must be clearly defined as to format, names and meaning.

To illustrate the necessary refinement, imagine a damaged bridge. Is it a four-lane concrete bridge that a tank could not cross, or is it a rickety wooden footbridge that a soldier could not cross?

While briefing the commander of the 3rd Fleet on the need for common data, I used the "damaged bridge" analogy. He responded, "What are you talking about? A bridge is where I command this ship. A tank is either salt- or freshwater. And what is a tank doing on my bridge?" Assuming universal acceptance of any information is dangerous unless it is standardized and has the same definition for all information users.

Information requirements. Once common data has universal definition for all battlespace users, the information still needs to reach users. Such common picture synchronization ensures the right information reaches the right person at the right time and requires that a military science "thinking piece" be applied before discussing any communications architecture.

Commander and staff elements have different functional, information and physical requirements for information. Their information requirements determine their version of the common picture. Doctrine is a starting point for determining what information to pass, who passes it and who receives it. This information is available in an operational architecture which to build information exchange requirements and identify the data elements that compose them.[2]

Bandwidth constrains information requirements so an updated report, for example, should not include elements that have not changed. At least one of the tactics, techniques and procedures (TTP) has not correctly transitioned to digital systems. In a field environment, units often use an alpha roster to reduce radio transmission times.[3] Currently, digital messages transmit all alpha roster information, instead of the code that identifies an individual. Communications should feed warfighter's needs—not move mountains of redundant or unnecessary information.

Doctrine can help determine the necessary data elements, reduce transmission requirements and improve situational understanding. Doctrine will evolve with digital systems to fulfill current and future information requirements.

Transport. After what to pass and where to pass it have been defined, these requirements can enter

US Army

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the transport system. With up-front requirements, the design and fielding of communications architecture should better meet the warfighters' information needs.

Display. The common picture display will probably be different for every user in the battlespace. The common picture display should satisfy users' information needs, allowing them to perform a specific function or mission. The display must include a minimum of four areas:

- Friendly activity and status.
- Enemy activity (obstacles to mission accomplishment).
- Other activity.
- Environment.

Friendly activity and status information. Friendly activity and status information should spread to the entire force as quickly as possible. Activity and status information includes name, action (current and planned), location, time and resources.

Ideally, commanders and staffs would know when every platform or soldier's activity changes, but today's technology and funding constraints prohibit it. Instead, we use TTP and conditions to determine the frequency and types of updates required for a specific net during a specific mission.

The term "status" covers a range of information from quantifiable items (such as meals or gallons of fuel) to subjective items (commander's assessment). Providing timely, accurate status information is time consuming and tedious but is crucial for indicating resource levels and an organization's ability to accomplish its mission. Computers are excellent for tracking locations, cross-checking values and other accounting tasks. Automated bookkeeping processes free up operators for subjective tasks and can quickly calculate potential problems and needs. Additionally, automated logistics will calculate the present status of food, fuel and ammunition down to the individual platform to help avoid supply crises.

Enemy activity information. There are at least three types of enemy activity information:

- Raw data from sensors and spot reports. Weapon system displays and intelligence analysts are the primary users.
- Enemy information is fused, analyzed and processed. Unlike the friendly picture, which can be purely science, the enemy picture requires more analysis. Science is useful for assembling knowledge about the enemy, but intelligence analysts must analyze and forecast likely enemy actions.
- Templated enemy units. This display presents a different type of problem. An automated situation template depicts the assumed threat, based on threat doctrine and battlefield effects.

Environment information includes maps, elevation, terrain, man-made objects and meteorological data. The challenge is distributing environmental data and displaying the bandwidth-intensive, detailed terrain data down to the warfighter. Terrain visualization, for example, is essential to seeing the situation at the platform level, where bandwidth and processor power are limited.

The common picture must be able to display all types of enemy activity—raw sensor data, fused intelligence products and templated units. Users must differentiate among the different types to achieve situational understanding.

Other activity information. The importance of "other" activity information has increased since the end of the Cold War. "Other" activity information includes neutrals, politicals, nongovernment organizations and unknowns—everything from Red Cross aid stations to protests, riots and demonstrations. The information can range from very well defined, similar to friendly activity and status information, to sketchy guesses. "Other" information may change over time, for example, two warring factions classified as neutral could later become enemy or friendly. This capability to collect, process and display "other information" is uniquely suited to support military operations other than war.

Environment. Environment information includes maps, elevation, terrain, man-made objects and meteorological data. The challenge is distributing environmental data and displaying the bandwidth-intensive, detailed terrain data down to the warfighter. Terrain visualization, for example, is essential to seeing the situation at the platform level, where bandwidth and processor power are limited.

Baseline environmental data is preloaded into all platforms and command posts before deployment. This allows sending changes to the platforms only as they occur, thereby minimizing bandwidth usage. From anywhere in the battlespace, environmental must be available for a specific location. All battlefield users will see the current and projected environment applicable to their battlespace. The effects of the environment show the impact against specific weapons and platforms to decision makers as part of their situational understanding.

Systems Supporting the Common Picture

Command, control, communications, computers, intelligence, surveillance and reconnaissance (C^4ISR) systems must be able to display the common picture. Currently, the Army uses different C^4ISR computer systems to provide the information used to generate common picture displays. Having these diverse systems is analogous to using different computers for word processing and databasing. In the objective ABCS system, these legacy systems will become software applications in a common ABCS environment.

Transforming ABCS to support the brigade is a stepped process, which begins by automating data input at the platform level to free operators and provide faster, more accurate information (such as an automatic 12-digit Global Positioning System grid coordinate instead of a manually computed position). We also know the "when" of the data creation. The next step in the process involves integrating C^4ISR computers to use and share the data from the generation sources.

Force XXI Battle Command Brigade and Below. FBCB2 supports the common picture at the soldier and platform level. It displays the activity and location of friendly and enemy forces, graphics, obstacles and map data for each platform in an area of operation, and is the primary source for friendly information in the common picture. FBCB2 uses operator-defined triggers to reduce soldiers' data-input burden, create automatic updates and send predefined platform data to battalion and brigade Maneuver Control System. TTP determines which triggers the operator sets for these updates. These triggers include:

- Defined time or distance interval parameters (updates every five minutes or every 500 meters).
- Event parameters (such as crossing a phase line).

MAJ Larry Seefeldt, US Army

A Bosniak takes a break from rebuilding a mosque destroyed by the Serbs and discusses local matters with a military intelligence officer and interpreter, July 2000.

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- Upon request (such as a digital "tell me where you are right now!" message).

FBCB2 operates over the tactical internet (TI), a real-time network. The TI is a combination of combat net radios, the Enhanced Position Location Reporting System, the Single Channel Ground and Air Radio System and Near-Term Digital Radios. The TI provides a continuous feed of changing data to every FBCB2 system in the net. FBCB2 passes these updates through the TI to the parent battalion headquarters, even if there is no direct network link from the battalion to the platform. Once the data arrives at the battalion, it is stored in the joint common database (JCDB).

Maneuver Control System (MCS). MCS is the information system for the force-level commander and staff. It will provide automated command and control (C^2) support to enhance the quality of information and shorten the duration of the decision-making cycle. MCS aids in developing decisions, directing units, monitoring and supervising operations and responding to information requirements. MCS is the functional system for armor, infantry, aviation, signal, engineer, military police and chemical units.

MCS takes FBCB2 data from the JCDB, aggregates it at the echelon the user chooses and displays the common picture. Currently, MCS is the primary system for converting battlefield functional area overlays into a tailored common picture. For example, a division G3 may wish to see maneuver battalions' centers of mass displayed, while the forward support battalion commander may wish to display company centers of mass for the supported brigade.

All Source Analysis System Remote Work Station (ASAS RWS). ASAS is the Army's primary system for providing fused, analyzed and processed intelligence. ASAS creates a collateral intelligence product, from all sources and classifications, and pushes this information to ABCS through the remote workstation. The ASAS RWS tailors this fused enemy picture to users' specific mission needs at any ABCS-equipped platform.

Combat Service Support Control System (CSSCS). FBCB2 and the Global Combat Service Support-Army (GCSS-A) systems provide platform and unit-level feeds to support combat service support (CSS) operations.[4] FBCB2 sends logistics information derived by on-board sensors, FBCB2-generated logistic reports or over the TI to the parent battalion. The network routes this information to the GCSS-A (wholesale) system and to the CSSCS system.

Having all systems provide information is not adequate to generate a common picture. Likewise, unlimited bandwidth and the best electronic mail system in the world are not the answers either, although they contribute to the solution. Overloading users with mountains of unstructured information could be as harmful as providing no information at all.

The major difference between GCSS-A and CSSCS is their functions. GCSS-A, at the unit level, handles the ordering process and is primarily concerned with the needs and status of specific platforms. CSSCS is the C^2 system for logistics and reports unit rather than individual status.

Other ABCS support to the common picture. Global Command and Control System-Army (GCCS-A) will be the BCT's primary link for joint and multinational information. GCSS-A is the bridge between ABCS and the joint Global Command and Control System (GCCS) and obtains any information available in GCCS for the BCT.

The Advanced Field Artillery Tactical Data System handles all of the fire support functions for the BCT. In addition to the artillery functions, it handles the close air support requirements.

Air and Missile Defense Planning and Control System (AMDPCS) handles all air defense functions within the BCT. AMDPCS is a combination of Air and Missile Defense Workstation, the high-altitude system that works with the Single Integrated Air Picture (SIAP) and Forward Area Air Defense Command, Control, Communication and Intelligence, the low-altitude air defense system. AMDPCS integrates the SIAP into the ground picture, giving the platforms inside the BCT the ability to see the air picture.

The Tactical Airspace Integration System (TAIS) is the Army's Airspace Command and Control (A^2C^2) system. TAIS provides automated A^2C^2 planning and operations as well as improved theater, corps and division air traffic services and air information center support. TAIS can effectively synchronize battlespace in the third and fourth dimensions (attitude and time, respectively) while interfacing with Joint C^2 nodes and air users, as well as civil and interagency authorities.

Common Picture Enablers

Having all systems provide information is not adequate to generate a common picture. Likewise, unlimited bandwidth and the best electronic mail system in the world are not the answers either, although they contribute to the solution. Overloading users with mountains of unstructured information (such as electronic mail, pictures and web pages) could be as harmful as providing no information at all.

Structured data is information arranged so that it can be searched, sorted or organized for automatic processing. Using such data is essential to creating a common picture. Software can easily take a mountain of structured data, use operator-defined filters, sift through it quickly and provide exactly the information needed. This focuses information collection and processing to meet specific warfighter needs.

For example, MCS obtains friendly data from the FBCB2 and converts it to units for display in the common picture. This conversion generates a basic military science problem—how does the computer know that bumper number A-11 belongs to 1st Squad, Alpha Section, 1st Platoon, Alpha Company, 3-9 Infantry? It does not. First, the computer must be fed unit organization in a form conducive to machine manipulation. The common picture needs five different types of structured information—organizational, personnel, materiel, facilities and features.[5] The first step is to use our doctrine to define our organizational information.

Default operational organizations. The organization is the fundamental structure for integrating all military data. Ten people asked to draw an organization chart for their unit would probably produce 10 different versions. Part of the reason is that modified tables of organization and equipment (MTOEs) do not include doctrinal organizations. Doctrinal organizations, such as fire teams and squads, are found in field manuals. Current MTOEs are based on logistics (people and equipment), using paragraphs and lines, not the functional fighting organizations.

(Continued on page 36)

Information Operations and the IBCT

Colonel Leonard G. Nowak, US Army, Retired

The Army's new and lighter brigade, the interim brigade combat team (IBCT), is being designed to improve strategic mobility and quick response to potential trouble spots in any operational theater. As with any force structure change, the tradeoffs among combat effectiveness, sustainability and deployability are manifold and complex, rarely leading directly to a perfect solution. As Army force designers begin to move away from the heavy force to a more deployable and sustainable one, they will also balance weapons system range, accuracy and lethality with force effectiveness and vulnerability. IBCT designers face diverse tradeoffs as they attempt to achieve the responsiveness essential for accomplishing strategic objectives.

Getting to a crisis area rapidly is only the beginning; survival and success constitute the deployed IBCT's ultimate mission. To survive, the IBCT must operate and fight with significantly more finesse and agility than its heavy counterparts would have to under similar deployed conditions. It cannot win decisively by virtue of the tons of depleted-uranium projectiles and high-explosive rounds it delivers, by the thickness of its armor or by the months of logistic backup it has pre-positioned. To fight smart, the medium weight force needs to take a fresh look at military operations—warfighting in particular. Each principle of war needs to be re-examined, unconstrained by today's biases and pro forma approaches to military operations.

Maneuver commanders have long taught tank and tube-launched, optically tracked, wire-guided missile (TOW) crews to look for enemy vehicles presenting specific radio or radar antennae arrays and to engage them on sight. Forward observers were similarly instructed. By taking out these command and control (C^2) and fire direction vehicles, forces cut the flow of information to the opposing commander, reduce the effectiveness of enemy fires and limit the opponent's ability to maneuver his force. Even with heavy brigades, there has never been an absolute benefit of force-on-force slugfests; rather, flanking maneuvers, tactical deception and ambushes can be more efficient offensive and defensive measures.

Such practices are a simple form of information operations (IO) at the tactical level. Forces can dominate the battlefield by fully integrating every element of available combat power, including those often cast aside as unnecessary by current heavy forces. Today's emerging IO concepts invite the Army to view military operations as the art of winning by placing the enemy at such a decisive disadvantage that he can no longer remain on the battlefield. Done well, a nearly bloodless victory may be possible well before a full-scale conflict begins. IO can reduce the probability of a close and prolonged engagement where even the winner loses.

Brigade-level IO is especially appealing because it is simple and straightforward, placing few demands on the commander and staff, and the effects are relatively easy to assess. The challenge is to explore the less-traditional avenues available to influence the enemy, specifically the enemy decision maker responsible for the local battle. At the lower tactical levels, the task is very direct: either shut down or alter the enemy's information flow, cause him to doubt his ability to win, then destroy him and his staff. Fully integrating IO with fire and maneuver (or with the threat of fire and maneuver) significantly increases the probability of success on terms favoring the friendly force.

The starting point for any excursion into the world of IO must be tactical intelligence. Unfortunately, tactical forces tend to focus nearly exclusively on the kinetic energy solution set, thereby narrowing an intelligence analyst's view of the enemy. Successful intelligence products in today's Army revolve around depicting the finite locations of enemy tanks and artillery pieces, and portraying what enemy maneuver forces are doing. Trapped in the ballistic view of the battlefield, intelligence producers at the tactical levels place little premium on knowing how the enemy commander makes decisions, where he operates on the battlefield and where his C^2 system may be vulnerable to offensive IO. An IBCT commander and staff who persist in the ballistic-solution approach to warfare will lose the opportunity to fight any smarter than traditional brigades. But a more advanced approach to intelligence preparation of the battlefield (IPB), one that adds an enemy C^2 layer to a picture of the enemy, will allow the IBCT commander to apply combat power more decisively—including IO to unravel enemy C^2.

Given that the IBCT is commanded by a leader familiar with IO and adequately supported by tactical intelligence, what tools may he use to attack the enemy commander? An old rule of thumb applies, "If you don't own it, you probably won't get it." The commander's bag of offensive IO tools could include:

- Direct fire weapons.
- Direct support artillery.
- Reinforcing or general support artillery.
- Ground-based jammers.[1]
- Attack helicopters.
- Close air support.
- Psychological operations attachments.

As the IBCT commander formulates a tactical plan, he considers how to disrupt the opponent's C^2 structure and processes. Realizing that not all enemy C^2 elements can be distributed, he develops specific IO objectives and tasks and specifies IO task execution times to synchronize IO with the maneuver plan. Given that offensive IO effects are transitory, they are planned for a decisive point in the operation. IO—coordinated, synchronized and executed like any other brigade operating system—allows the commander to maximize the employment of combat power.

As with offensive IO, the commander will have a number of tools to support defensive IO. Concurrent with offensive IO planning, the IBCT commander identifies

Before defining the organization structure to the computer, a formal, unambiguous definition of an organization is required, but an organization is a virtual intangible entity—a mental grouping of people and equipment to accomplish a specific function. Without a clearly defined organizational structure, all digitization efforts fail.

Computer programming requires clear, unambiguous instructions. Every identical question must receive the same answer. This means removing all ambiguities in MTOEs before entering the data into C^2 systems. An example of this would be the assignment of a battalion commander to an MTOE. The battalion commander is assigned to a headquarters and headquarters company, commanded by a captain. Does this mean that the captain has command authority over the battalion commander? Problems arise when attempting to explain these characteristics to the computer.

Dr. Sam Chamberlain addresses the issues associated with this problem in a study of military organizations.[6] This study resulted in the definition of

friendly critical nodes and nets that must remain operational to successfully execute the mission. These nodes and nets become the focus of the brigade's defensive IO efforts as the commander looks for ways to thwart the enemy's attempts to disrupt them. The commander also visualizes how offensive and defensive IO work together to provide a decisive C^2 advan-tage at critical times during the operation. For example, the commander may greatly reduce the probability of an artillery attack against his tactical operations center (TOC) by attacking the enemy's unmanned aerial vehicle (UAV) launch sites, airborne UAVs and ground receiving stations. With this specific concept in mind, the following systems and processes as possible defensive IO tools:

- Air defense systems.
- Counterintelligence teams.
- Cover, camouflage and concealment (including smoke).
- Tactical deception, including ruses and feints.
- Redundant and alternate communications links and alternate command posts.
- Counter-reconnaissance and military police operations.[2]

Because the command must focus more narrowly the closer it is to the fight, the IBCT commander will have to rely on the division or joint task force to handle the bigger IO picture and support his operation with IO assets from the other services. The IBCT simply will not have the time or the staff available to plan and conduct IO on a broader scale, although the scale of IO will vary with the type of operation. Fast-moving maneuver needs support from equally fast-moving IO. On the other hand, peacekeeping operations may find the IBCT planning and executing IO at a more deliberate pace and on a much broader scale, employing theater and national-level assets, and coordinating directly with diplomatic, commercial and private volunteer organizations.

The operational context includes opposing forces and characteristics of the area of interest and requires comprehensive and responsive intelligence support. As with maneuver, fire support and logistics, intelligence functions and systems need to be agile and as deployable as the force they support. Split-based intelligence provides products compiled outside the operational area to the brigade commander and staff via satellite communications to meet the needs of the IBCT. Other options may include downlinking airborne sensor-generated information directly to the IBCT TOC. Satellite and UAV-borne sensors, flown from out-of-country areas and downlinked to laptop terminals, allow the IBCT to receive tactical information without lugging intelligence systems and their ponderous support facilities into the operational area.

How the IBCT employs IO across the range of military operations is not the subject of this article—but rather *whether* the IBCT commander will be able to employ IO under any circumstance. Unfortunately, the deck is stacked against fighting smart anytime soon. Attempts to fully integrate IO will be hampered by a general lack of enthusiasm for IO within the tactical force, the dearth of IO in the curricula of Army schools and centers, the plodding start of Functional Area 30 training, and the paucity of IO play in the Battle Command Training Program. Visionary IBCT developers may be able to break through these obstacles in the coming months.

The IBCT offers the Army a capability far beyond a more-deployable and tactically mobile command. The IBCT gives the Army an opportunity to rethink operations from peacekeeping through warfighting as it forges new concepts and tailors doctrine to meet tomorrow's requirements. IO should certainly rank high among the factors considered as the IBCT becomes a viable fighting force. ***MR***

NOTES

1. Jammers may be tethered to the division's military intelligence (MI) battalion for technical direction and to the G2 for operation mission tasking. The brigade commander needs to ensure his jamming mission requirements are clearly stated and acknowledged by the division G3, the FSO, the MI battalion operations section and the G2 in order to receive the jamming support required.
2. The IO tools available to the commander for offensive and defensive operations will be situation dependent. Tools listed in these examples may not be appropriate in other circumstances.

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a default operational organization, a precisely identified organization chart with nodes and links explicitly defining the parent-child relationships between the chart members. After identifying these nodes, authorized personnel and equipment are assigned.

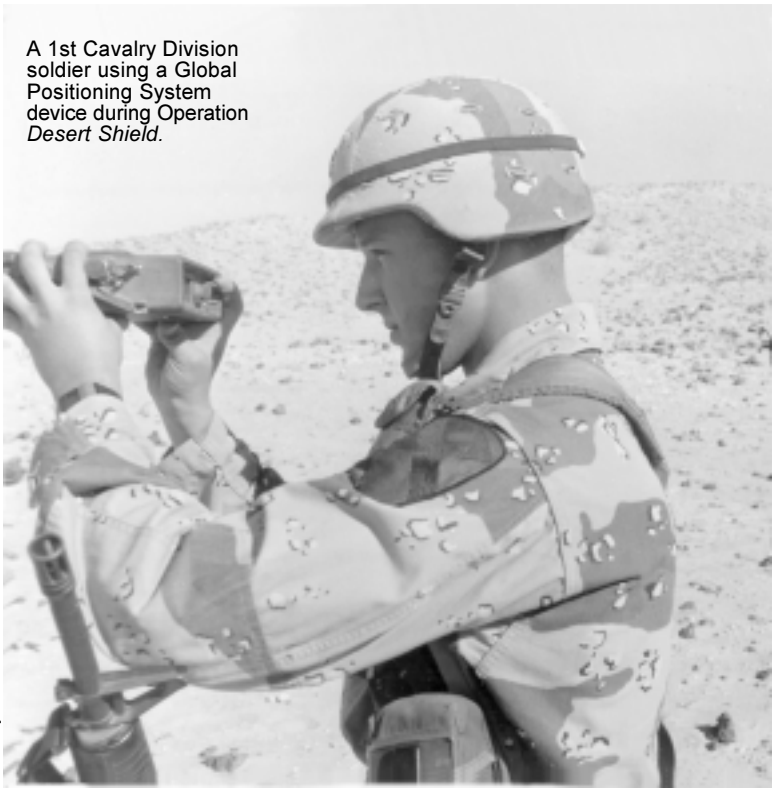
The default operational organization defines the force structure before task organization. It does not, and cannot, reflect every possible task organization. The default operational organization gives commanders the flexibility to task-organize digitally and to load electronically the MTOE data into C^2 systems before deployment.

The Force Management System (FMS). A proposal to redesign the force structure process to achieve this goal was presented to the deputy chief of staff for operations, the proponent for organizations within the Army. The resulting project to redesign the Army's force structure systems, FMS, is the result of an ongoing re-engineering project by the US Army Force Management Support Agency. Unlike past builds, this one includes warfighters' requirements at the front end of the process. The final system should meet force developers' goals and warfighters' needs.

The output from FMS will provide MTOEs that can be read like organization charts and provide the default operational organization electronically for use in ABCS. The Army organizational structure will be completely defined from Headquarters, Department of the Army down to the individual billet level. This classification will include all 4,900+ MTOEs and tables of distribution and allowance (personnel and equipment) for the Active and Reserve Components.

The final step in the FMS process is to provide this information to ABCS in a common format, down to the billet level. Currently, the Army does not have a standard naming convention for its digital systems. To compound the difficulty, names must be unique within joint and multinational arenas as well. The solution to this problem was the creation of a unique organizational identifier called the organizational identifier (ORG-ID).

The ORG-ID. The key to achieving interoperability between diverse C^2 systems starts with detailing the organizational structure and assigning each organization a unique name. For interoperability, computers must use a single name for each organization. Currently, each Army information system uses its own naming convention, resulting in different names for the same organization (such as a unit identification code). Computers also need to have only one organization with a particular name. For example, "A/1-1 IN" is not unique if more than one of these organizations exists in the world, not just in the US Army. Then there is the problem of getting the name correct. A missed space, a dash instead of a slash or an underscore instead of a space translates into misunderstood or misrouted information.



A 1st Cavalry Division soldier using a Global Positioning System device during Operation *Desert Shield.*

US Army

Transforming ABCS to support the brigade is a stepped process, which begins by automating data input at the platform level to free operators and provide faster, more accurate information (such as an automatic 12-digit GPS grid coordinate instead of a manually computed position). We also know the "when" of the data creation. The next step in the process involves integrating.

An ORG-ID is a naming convention for computers. It allows the computer to identify every organization within the digital network and nondigital units entered in the database, regardless of service or nationality. It uses a number as a name, which allows it to be recognized as the only organization with that name. The ORG-ID is loaded with the MTOE and is transparent to users, who continue to use the common form (such as A Co., 1-1 IN).

The ORG-ID integrates all C^2 systems together

Currently, the Army does not have a standard naming convention for its digital systems. To compound the difficulty, names must be unique within joint and multinational arenas as well. The solution was the creation of a unique organizational identifier called the organizational identifier (ORG-ID).

into an interoperable structure. This work is ongoing at Fort Lewis, Washington, awaiting the arrival of the fielded digital systems. The ORG-ID is fundamental to the JCDB, and can facilitate a naming convention for all other data.

The JCDB. The key to the science of seeing and interoperability is the JCDB, a fully integrated, distributed database that all automated C^2 systems use to share information. It is not a "big database in the sky, " but tailored for each organization in content, size, area of coverage and overlay features. It uses a common data scheme (everyone uses the same name to mean the same thing), facilitating the sharing of information across organizational (system) boundaries.

The JCDB stores all information that has a potential for interoperability and dissemination across system boundaries. Initially, the JCDB will only contain data elements established for known information requirements and common picture data for a particular echelon. Eventually, with the objective ABCS system and the advent of the Global Information Grid, it will contain all digital data.

The JCDB is a functional part of ABCS and is normally located at command posts at and above the battalion level. Although most JCDB contents will be different, command posts within an echelon can contain the same amount and types of information for continuity of operations and rapid information tailoring.

The JCDB receives data from all ABCS systems for use in developing a common battlespace picture. For example, MCS takes the platform data provided to the JCDB by FBCB2 and aggregates it into units on the situation map. Similarly, the CSSCS aggregates data from GCSS-A about individual items, and provides a unit's status. This process allows all users to see the same data displayed, tailored to their specific needs, regardless of their location.

Sharing common situational understanding of the battlespace is essential for the transforming brigades but building that common is not a simple process. The common picture starts with common terms, applied doctrine and digitally meaningful organizational structure. This work produces a default operational organization, which becomes a digital MTOE for the brigade's JCDB. The ABCS system link into the JCDB, through the ORG-ID, to provide status information that becomes a common picture. With a clear task organization as a basis, ABCS systems can update and share the common picture throughout the battlespace.

By automating routine tasks warfighters can concentrate on operations rather than bookkeeping. This automated common picture is fundamental to moving from the linear, hierarchical, plan-centric world of the analog to the parallel, collaborative, execution-centric world of automation. The future challenges are daunting, but a common pictures' potential to increase speed, tempo, lethality and survivability among transformation brigades makes this a center-of-gravity effort. ***MR***

NOTES

1. ABCS is composed of: the Maneuver Control System (MCS), the All Source Analysis System (ASAS), Air & Missile Defense Planning and Control System (AMDPCS), the Advance Field Artillery Tactical Data System (AFATDS), the Global Command and Control System-Army (GCCS-A), the Tactical Airspace Integration System (TAIS), the Combat Service Support Control System (CSSCS) and FBCB2.
2. TPIO-ABCS Pamphlet, *Operational Architecture, Change Catalyst to Redesign the Army* (Fort Leavenworth, KS: Army Battle Command Systems). OA is the change catalyst for redesigning the Army. It applies business re-engineering techniques to Army organizations. It identifies who exchanges what information, and with who; why the information is necessary; and how the information will be used.
3. An Alpha Roster lists all personnel assigned to a unit, normally alphabetized. It contains personnel information, including name, rank, social security number and duty position. It can enable a brevity code for refering to a particular soldier (A13 may indicate the 13th name on the A Company list).
4. GCSS-A will replace all Unit Level Logistics System [ULLS] computers at the company level.
5. The five basic battlefield entities as defined in the JCDB and ATCCIS Generic Hub database schemas.
6. Sam Chamberlain, *Default Operational Representations of Military Organizations*, Army Research Laboratory Technical Report, February 2000 at <http://www1.arl.mil/~wildman/PAPERS/tr2172.html>.

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A Look at Reachback

Major John M. Neal, US Army

AS PART OF THE ARMY's transformation, the evolving concept of reachback is frequently cited as both a force economizer and as an information multiplier. This article explores some of the issues that revolve around the use of reachback and offers a departure point for discussion on how reachback efforts can be best organized to support a deployed force.

Deploying rapidly often means taking fewer troops, especially from headquarters staffs. Simultaneously, evolving information and communication technologies are making physical distance irrelevant for data transfer. These two developments intersect in the evolving concept of reachback. Reachback is envisioned as a way to reduce the number of staff officers deployed while providing enhanced information and tailored resources to the operational commander.

Reachback is the electronic ability to exploit organic and nonorganic resources, capabilities and expertise, which by design are not located in theater. Reachback enhances the operational agility of the deployed unit by improving its access to timely and relevant information. Additionally, it improves deployability by reducing the unit's in-theater footprint. Reachback as a tool is not new. Many organizations have employed out-of-sight resources to support their operations. What is new is the widespread capability to harness these resources through emerging technologies.

Using informal or self-directed reachback, deployed units may contact out-of-theater resources directly. This may be as simple as placing a telephone call or manually searching global Internet or defense Intranet web sites for required information. Programmed search engines can also comb the Internet based on established search criteria. Telemedicine, the ability of remote doctors to consult specialists electronically, is a striking example of self-directed reachback. Soon many units will have the ability to conduct similar reachback through their organic information systems.

Formal reachback is more resource-intensive and involves third-party, out-of-theater personnel. A deployed unit may identify an information requirement that cannot be met by in-theater resources or through informal reachback. The unit then contacts a central information resource, articulates its requirement and depends on the resource to research and provide an answer.

Reachback enhances the operational agility of the deployed unit by improving its access to timely and relevant information. . . . Telemedicine, the ability of remote doctors to consult specialists electronically, is a striking example of self-directed reachback. Soon many units will have the ability to conduct similar self-directed reachback through their organic information systems

Making reachback more effective, whether it is self-directed or more formal, requires addressing these issues:

- Where is the best source of information to answer the leader's question? The deployed staff must ensure it is using the best resources available, which requires understanding the capabilities and limitations of all available resources and assessing their value.
- Are we asking the right question? The deployed staff must understand the issue fully to form an effective query.
- How do we communicate with the resource? The best resource may not be available electronically. The staff must have several technologies for reachback to different resources.
- Did the resource answer the question? The deployed staff must be able to determine the thoroughness and accuracy of the information received.
- Is the answer in a usable format? Data comes in widely varying formats, media and file types.

• Who else needs this information and how do we share it? Other units may need the same information and should have access to it.

• Is the information resource overwhelmed? The deployed staff must be able to articulate the urgency of its requirement, especially since other agencies may be seeking similar information from the same resource.

Many deployed units, streamlined to improve their deployability, may lack the expertise, resources and access to ensure their reachback efforts resolve these challenging issues. The creation of a nondeployed organization to provide reachback support to the deployed force will resolve these issues and provide added value to the reachback effort.

Receiving, processing and displaying the right information will require great bandwidth and processing capacity, and the reachback center will completely depend upon this data processing to accomplish its mission. . . . Human friction between the deployed headquarters and the nondeployed center will challenge leaders on both ends of the pipeline.

The reachback center. Creating a reachback center may help properly manage information resources. This center will function as both a research institute and a command post for processing formal reachback actions. It will monitor the mission, the commander's intent, the current situation and unfolding events at the national, international and strategic levels. While self-directed reachback will continue to occur directly from the deployed user to the information resource, the reachback center will add immense value to the process for those employing it.

The center will develop working relationships with national information resources. It will operate as a 24-hour part of the deployed commander's staff, dedicated to supporting his mission and maintaining situational understanding of the operation. The reachback center will know where to find the best information to meet the deployed unit's needs, obtain that information and ensure its accuracy and proper format. Additionally, the reachback center will determine which other deployed units may need the information and forward it to them.

The reachback center should be able to operate at three levels of activity. At the lowest level, it will merely respond to requests for information (RFIs) from the deployed force. In this mode the reachback center will have awareness of the current tactical situation but insufficient knowledge to forecast consistently what information the commander will need for future operations. This mode will be necessary when data flow in and out of theater is severely limited or when technology to provide clear situational understanding is not available. The center's understanding of the current situation will be garnered chiefly from reports and frequent communication with the theater.

At the second level, the reachback center will monitor the current situation and seek to meet short-range requirements without being tasked, provide helpful information and respond to RFIs. As a filter, it will screen and prioritize information that other organizations want to push into theater. This mode is appropriate when data transfer is limited but the center is able to follow current operations by monitoring voice and message traffic.

At its fullest capacity, the reachback center will be capable of fully anticipating requirements for future operations. The center will be able to assist with, if not lead, planning efforts for future operations while still responding to RFIs. This will require thorough situational understanding and place high demand on data transfer capabilities (bandwidth).

Major functions of the reachback center. The fully capable reachback center can perform numerous functions for the deployed commander:

• Develop information resources. The value of the reachback center will greatly increase as it develops and maintains ready access to rich information resources. These resources are varied and might include other government agencies, university research programs, and medical and legal centers.

• The reachback center will work to establish a strong directory of these resources prior to deployment.

• Enable command and control during deployment. While the command is deploying, the center can monitor deployment status and developments in theater. The center can continue planning and provide the enroute commander with a current status via available communication systems.

• Maintain the common operational picture and situational understanding. The center will be electronically tethered to the deployed force and have full understanding of the deployed commander's capabilities, limitations, mission and intent. It will have access to full information on threat forces, the environment, the status of operations and the logistic situation.

• Proactively push information into theater. The center will anticipate information requirements, fulfill them and send information to the deployed force.

• Receive, validate and process RFIs. The center will receive requests from the deployed headquarters, then record and validate them. During vali-

dation the center will assess the request's viability (can it be answered in the time required?) and clarify any ambiguities. The center will check its archives to see if it already has an answer. The center assumes responsibility for answering the request.

- Determine appropriate information resources. Using its existing resource directory, the center will process the request to the information resource, track progress on its accomplishment and respond to any issues that arise from that resource.

NASA

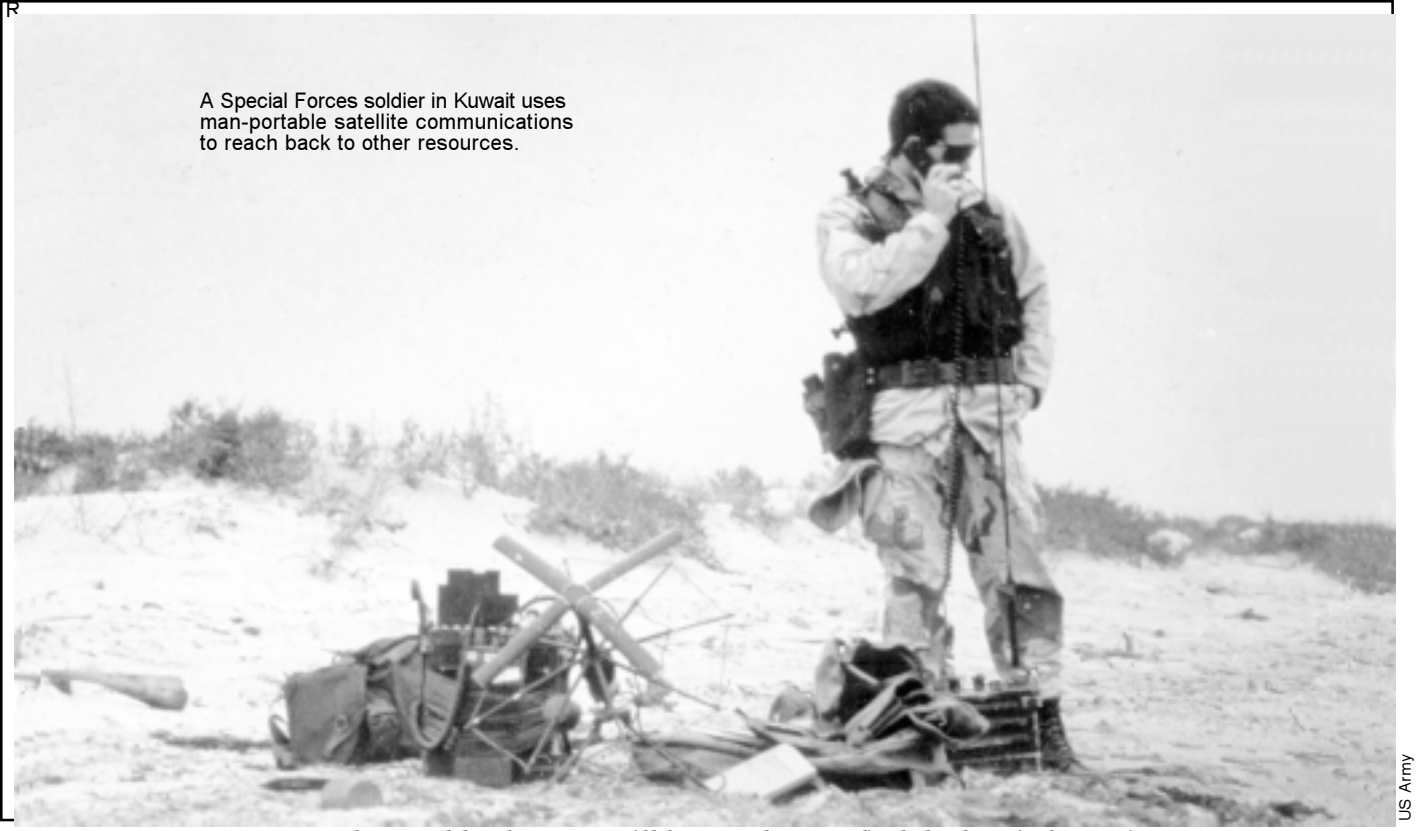
Mission control less than one hour before the fateful transmission, "Houston, we have a problem." (*Inset*) Flight directors on "managers' row" working out solutions during the cascading crisis.

Apollo 13

The perilous journey of Apollo 13 models the importance of reaching back to the right source. NASA designed the spacecraft for only three crewmembers. It was impossible to train those crewmembers for every possible problem they could face, just as it was impossible to cram the spacecraft with all the necessary information. Certain resources necessary to mission success had to be left behind. When an explosion occurred on the spacecraft and threatened the oxygen supply, the astronauts reached back to Houston for help. Houston immediately assembled experts who designed a carbon dioxide filter out of materials available on the spacecraft and verbally told the crew how to build it. This process was possible because:

- The astronauts communicated the problem to Houston when they realized it was beyond their capability to solve.
- Houston possessed near-perfect situational understanding of the problems on the spacecraft through their sensors and systems.
- Houston knew the crew's resources, capabilities and limitations.
- Personnel at Houston, while concerned for the safety of the astronauts, were personally removed from danger and could think and act with less stress than the crew.
- The experts' solution was in the right format—they read the instructions to the crew, because there was no way to transmit a picture.
- Houston and the astronauts maintained excellent communication.

If there had been no mission control, the astronauts would have been forced to figure out whom to call and how to contact them. They would have had to explain the whole situation, probably to someone who had no idea of their capabilities and limitations and who may not have understood the urgency of the situation. The astronauts would have been forced to accept whatever solution was then presented with little ability to judge it's effectiveness. Given more time, they could have called 40 experts and received 40 different plans on how to build the filter—but would have been dead before they could figure out which design was best. Apollo 13 was saved because, even though the crew lacked onboard expertise, the mission included a well-considered plan for obtaining any knowledge needed. The plan worked because mission control knew their strengths and limitations just as the reachback center will understand those characteristics for the deployed force.



A Special Forces soldier in Kuwait uses man-portable satellite communications to reach back to other resources.

US Army

The reachback center will know where to find the best information to meet the deployed unit's needs, obtain that information and ensure its accuracy and proper format. Additionally, the reachback center will determine which other deployed units may need the information and forward it accordingly.

- Process responses. The center will ensure that responses received from the queried information resource are thorough and in appropriate medium and format for transmission to and use by the deployed force. Additionally, the center will determine whether the information is pertinent to other deployed organizations and if so, make it available to them. Finally, the center will archive the information in a retrievable database.
- Receive augmentation. When notified to support a deploying force, the center must have a plan for the rapid orientation and integration of additional staff and support personnel at the center.
- Conduct deliberate planning. When properly resourced and fully linked to the deployed force, the center will be capable of conducting deliberate planning for the deployed headquarters. With its vast access to information, the center can perform detailed planning with the best information available, develop courses of action (COAs) and conduct computer simulations using those COAs before presenting options to the deployed commander.
- Share information with follow-on forces. The center will be a great source of training and planning material for follow-on forces. This information can be shared with follow-on forces early and enable them to better understand the theater and its current operations.
- Execute administrative functions. The center may be able to relieve the deployed staff of numerous administrative burdens such as operating a joint visitor's bureau and processing certain personnel actions.

The center will be manned by administration, intelligence, operations and logistics personnel, with unlimited potential for augmentation based on specific situations. The center could accommodate other interagency support for the operation (such as law enforcement, state department, immigration and naturalization and federal emergency services) as well as additional Army resources.

Reachback center operations. During periods of stability, a small staff will man the center to maintain its systems and directory of resources. Upon notification of deployment, the center will be manned by a combination of staff officers from the Army Service Component Command (ASCC), in-

Criteria for Positioning the Reachback Center

Easy access to existing theater plans and studies.

Availability of theater subject matter experts and analysts.

Robust communications architecture into theater.

Theater focus and institutional knowledge.

Previously developed ties with joint and national information resources.

Access to responsive modeling and simulation capabilities.

dividual mobilization augmentee and the deployed unit. Selected civilian experts and technicians could easily augment this manning to provide continuity, longevity and specialized expertise. The center's director will be an officer from the deployed unit with broad authority much akin to that accorded the chief of staff.

Maintaining continuous situational understanding presents a large technological and cognitive challenge for the reachback center and its personnel. Receiving, processing and displaying the right information will require great bandwidth and processing capacity, and the reachback center will completely depend upon this data processing to accomplish its mission.

The human dimension will also require strong leadership. Maintaining the sense of urgency required for proactive thought and action will present a daily challenge for those removed from the physical threats and difficulties of the deployed force. Additionally, human friction between the deployed headquarters and the nondeployed center will challenge leaders on both ends of the pipeline.

The technological challenge is even more significant. To maintain critical situational understanding, the center will require access to the same information available to deployed forces and the same ease of use. It may be necessary to have a 24-hour open audio-video link between the deployed headquarters and the center to ease that understanding and enable smooth staff communication. Transferring massive data files among deployed forces, the reachback center and research elements will require high-speed, high-capacity networks. The wargaming of COAs will also require access to sophisticated modeling and simulation that will likely not be organic to the center.

Resourcing the reachback center. The center's location largely determines its resourcing. At least two solutions are worthy of exploration: the nondeploying corps headquarters of the deploying force and the ASCC headquarters for the area of operations.

Locating a center at each of the corps headquarters results in four possible sites (I, III, V and XVIII Corps) and has several advantages. It enables the use of existing facilities (such as simulation centers, emergency operations centers and fixed command posts), multiechelon training opportunities, habitual association with deploying units and a clear unity of command.

To maintain critical situational understanding, the center will require access to the same information available to deployed forces and the same ease of use. It may be necessary to have a 24-hour open audio-video link between the deployed headquarters and the center to ease that understanding and enable smooth staff communication.

Selecting the ASCC headquarters and positioning a reachback center in each theater has some unique advantages: enhanced theater awareness; links to theater assets; access to existing theater subject matter experts, planners and analysts; and available plans, databases and studies. Joint theater-specific products will be more expeditiously tapped by the ASCC-located reachback center and available through enhanced connectivity with potential joint task force headquarters.

The choice of location will depend in part on our willingness to properly resource the reachback center. The reachback center must be a turnkey operation, able to quickly become active and supportive. Additionally, it must be as responsive and useful to the deployed commander as if it resided on the other side of the tactical operations center tent flap.

Reachback, in several forms, will be built into our future forces as both a force economizer and an information multiplier. Operationally, a nondeployed reachback center could replace the main command post as the element that accomplishes deliberate planning and analysis functions.

Reachback capabilities can only increase as advances in technology. Discussing, defining and developing the concept at this early stage are critical to leverage fully this potent and evolving capability. Emerging organizational and operational concepts associated with reachback are founded on leveraging information technology but will not happen without a deliberate and adequately resourced plan. ***MR***

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Transformation in Army Logistics

Lieutenant Colonel Robert McKay, US Army Retired, and Kathy Flowers

MAKING THE ARMY VISION a reality requires a quantum leap in strategic responsiveness and a corresponding revolution in military logistics (RML). This radical transformation moves the Army's logistics focus from supply mass to distribution velocity and precision—a distribution-based logistics system (DBLS). This article summarizes the Army Vision's logistic counterpart, the RML; the distribution-based logistics (DBL) operational concept; the resulting DBLS; the considerable changes to the logistics transformation strategy driven by the new Army Vision; emerging, yet still notional, performance metrics which define success; and the management plan and oversight to make it all happen.

The Army intends to project lethal, survivable interim brigade combat teams to any point on the globe, with the capability to dissuade or defeat any adversary. The goal is to put one brigade combat team (BCT) on the ground in 96 hours, one division within 120 hours and five divisions within 30 days. Even to those accustomed to America's routine accomplishment of the incredible, this represents an ambitious undertaking but one necessary to secure America's vital interests in an increasingly unstable geopolitical environment.

The Army Logistics Vision

To achieve the degree of strategic reach and overmatch envisioned by the Army requires an RML—the Army's vision of future logistics. The Army Vision poses an unprecedented logistics challenge, which may be expressed in terms of the three domains of the RML:

- Force projection requires deploying five divisions, anywhere in the world, within 30 days.
- Force sustainment demands high readiness of those five divisions and being capable of quickly resolving any shortfalls so they can deploy and arrive combat ready in theater within four to 30 days. The Army must be capable of sustaining the committed—up to the total force—throughout any mission profile over lines of communication exceeding 10,000 miles.
- Technological insertion and acquisition agility will provide the US with first-rate equipment and uncontested military supremacy. It must identify and target technology and be agile enough to acquire materiel necessary to project and sustain the force throughout the deployment sequence, from short-fused start to decisive finish, regardless of mission type or duration.

The program to create the DBLS is one of the Army's most important logistics initiatives—the concrete application of the DBL operational concept to achieve the envisioned RML. . . . The advent of the new Army Vision has only emphasized the need for improved visibility. For the purposes of DBLS, both information and decision-support systems are placed under the tenet of visibility because decision-support algorithms allocate resources based on visibility of command priorities.

Of the three functional domains of the RML, none captures its essence more than force sustainment. The program to create the DBLS is one of the Army's most important logistics initiatives—the concrete application of the DBL operational concept to achieve the envisioned RML.

DBL

DBL is an operational concept that relies on distribution velocity and precision rather than redundant supply mass to provide responsive support to warfighters. It reduces the mass required to compensate for the lethal uncertainties of war by reducing uncertainty across the Joint theater. DBL is comprised of three tenets:

Visibility. The acquisition of near real-time situational understanding, or visibility, has been a major objective of Force XXI. The Army is continuing

this effort, with the first digitized division to be fielded in December 2000, followed by the digitized corps in 2004. The advent of the new Army Vision has only emphasized the need for improved visibility. For the purposes of DBLS, both information and decision-support systems are placed under the tenet of visibility because decision-support algorithms allocate resources based on visibility of command priorities. However, establishing or changing these priorities is placed under the tenet of control.

Visibility can be grouped into three major categories. First, there is visibility of the supported warfighting units, which includes the unit's prioritized requirements, the commander's priorities among units, and the current and projected commander's intent. Situational understanding of the supported unit is the most essential element of the visibility tenet, since the status of the warfighting unit defines the logistic mission and establishes priorities.

The second element of visibility is logistic capabilities and constraints. The logistician must have real-time situational understanding of his own capabilities and constraints. These include visibility of elements of capacity such as infrastructure, materiel systems, inventories, transportation resources, personnel skills and training, and the logistic implications of the situation.

The third element requires visibility of logistic requirements and priorities to the supporting organizations at the theater and strategic levels. Conveying situational understanding to supporting logistics organizations, such as from the corps support command to the theater support command or the Defense Logistics Agency, becomes increasingly important, particularly as the Army loses autonomy to strategic-level providers, even within the theater of operations.

DBLS will comprise a system of innovative policies, doctrine and concepts; reengineered logistic functional processes; redesigned organizations; new materiel systems with embedded sensors and prognostics; advanced information, decision-support and command and control systems; and well-led, highly trained soldiers and civilians to operate and manage it.

Capacity. The logistics force must have the physical capacity to act on the knowledge provided by real-time visibility. This includes the array of materiel systems; the lean but adequate inventories; road, rail and facilities infrastructure; and skilled personnel. These capabilities include the materiel for physical distribution within theater and from the Continental United States by military or private vendor.

Enhancements to new and improved materiel systems, such as embedded sensors and prognostics, are essential to anticipating logistic requirements. Under guidance established by the combat service/combat service support (CS/CSS) transformation task force, under a "platform-centric" approach, such enhancements are considered under the tenet of capacity, not visibility. Moreover, while a unit, such as a transportation battalion, is considered under the tenet of capacity, its battalion and company headquarters elements are considered under the tenet of control.

Control. Some of the most important logistics modernization efforts fall under the tenet of control. These include the tactical force structure of the brigade combat teams; the theater support command; and the single seamless Army logistics organization, the Army Readiness Command. Control also includes the necessary doctrine (at the operational and tactical levels) and law, policy and regulation (at the strategic level). Control encompasses the expert leaders and artisans who apply logistic capabilities to satisfy prioritized operational requirements.

The Army's Logistics Vision:
The Revolution in Military Logistics

Revolution in Military Logistics
Reshaping how we project and sustain the Army

- Distribution velocity, not supply mass.
- Near real-time situational awareness.
- A seamless logistics organization:
  - supported by a single information and decision support system;
  - links reengineering functional processes;
  - employs best business practices; and
  - sustains operating tempo without operational pause.

The RML Intent:
Transform Army logistics into a distribution-based system that substitutes distribution velocity and precision for logistics mass, to provide the right stuff at the right place at the right time—at best value.

The RML Transformation Objective:
Create a distribution-based logistics system that provides the theater commander a small, transparent, yet highly responsive logistics capability which sustains operating tempo without operational pause.

Fundamental to Track II is a capabilities-based approach to logistics, focusing on platforms (soldier, weapon system or unit) linked through the operational level to the strategic level of logistics by an overarching integrated information architecture. . . . Additionally, the milestones associated with the logistics transformation strategy are being reoriented on the three Army phasing objectives, corresponding to the initial force, the interim force, and the objective force.

The DBLS

The DBLS is the envisioned RML end-state. DBLS will comprise a system of innovative policies, doctrine and concepts; reengineered logistic functional processes; redesigned organizations; new materiel systems with embedded sensors and prognostics; advanced information, decision-support and command and control systems; and well-led, highly trained soldiers and civilians to operate and manage it. Figure 2 depicts the DBLS and some of its more important initiatives.

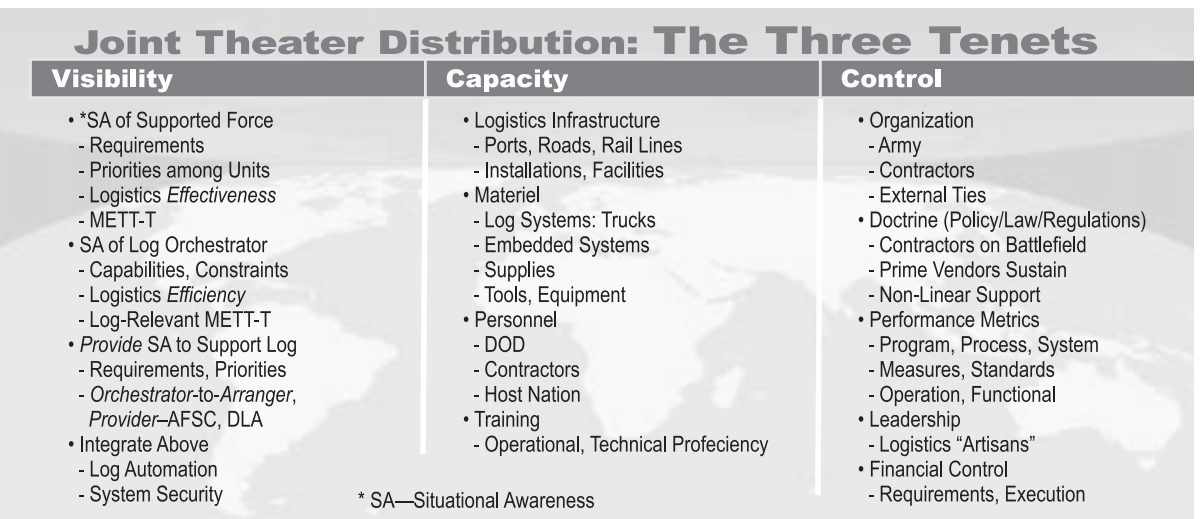
The RML has always envisioned the continuous and dynamic transformation captured in the Army Strategic Logistics Plan (ASLP). This flexible strategy has been revised to conform with the emerging Army transformation strategy, driven by a far more aggressive Army Vision. A brief summary of the changes to both the Army transformation strategy and the Army logistics transformation strategy is in order. The RML vision remains unchanged, but the strategy, phasing and milestones change dramatically.

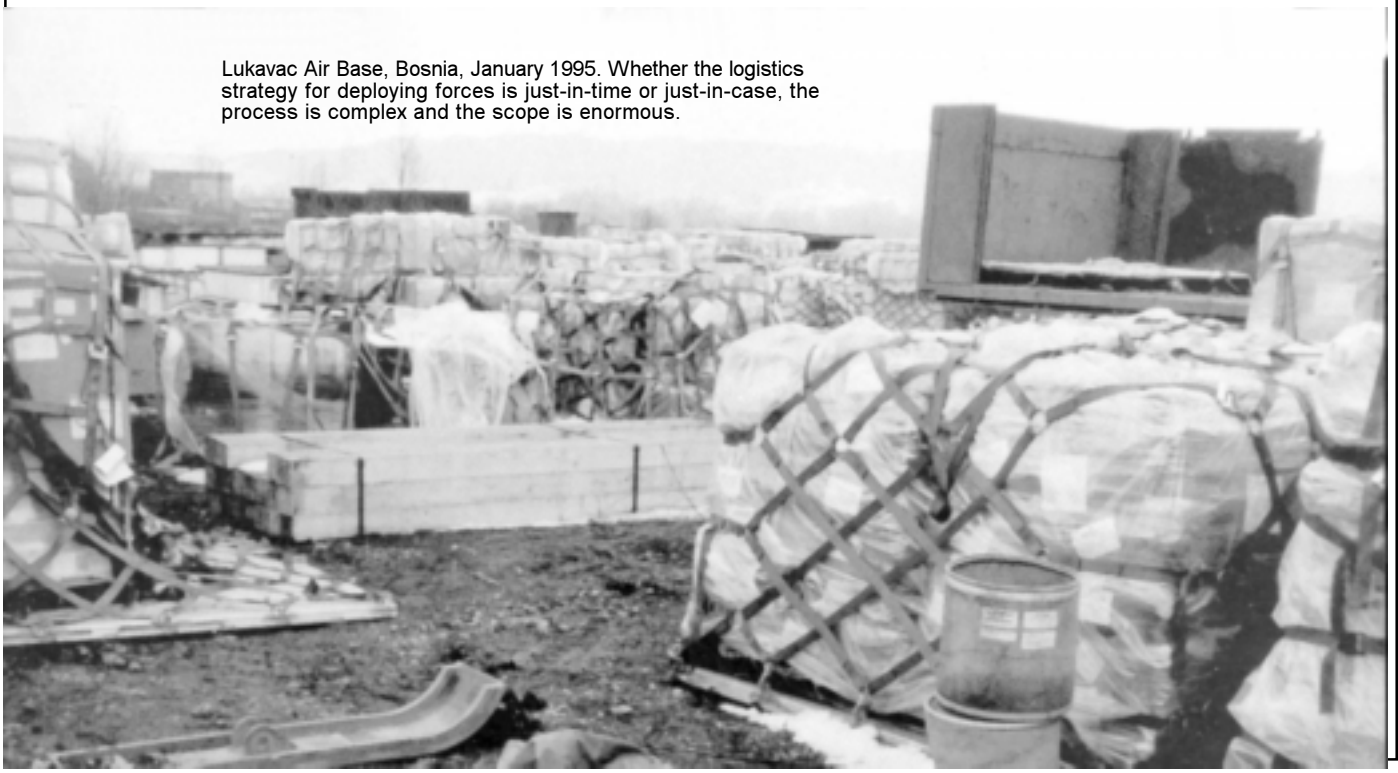
First of all, the meaning of the term "phases" previously used in the ASLP has been discarded to accommodate the new strategy and terminology associated with the new Army Vision. In a nutshell, the sequential Phase I/II strategy now becomes a concurrent Track I/II strategy. Second, the term "phasing" now refers to the phases defined in the Army Vision and its associated transformation strategy. These represent the key Army milestones on which all logistics programs and initiatives, for both tracks, will necessarily orient.

Some clarification is necessary to show the relationship among the previous Army Vision, the RML and earlier versions of the ASLP. The previous version of the ASLP was a two-phased transformation strategy, linked directly to the former Army transformation strategy of two sequential processes. The first was the Force XXI process, which concentrated on leveraging information and communication technology to give the legacy forces near real-time situational understanding and greatly enhanced command and control (mental agility). Capitalization programs would ensure that Army legacy systems maintained overmatch capability against any foreseen foe.

The strategy supporting the Force XXI process was called Phase I. It would leverage information and communication technology to transform the Army logistics system into a distribution-based logistics system. Phase I concentrated on reengineering the functional logistics processes. Visibility would be provided through initiatives such as total asset visibility and in-transit visibility, all linked within a single information and decision-support system through assured communications, under the aegis of a single Army logistics provider.

The Army After Next (AAN) process was to follow Force XXI and provide weapon systems with revolutionary capabilities to replace aging legacy systems and maintain the Army's combat overmatch





Lukavac Air Base, Bosnia, January 1995. Whether the logistics strategy for deploying forces is just-in-time or just-in-case, the process is complex and the scope is enormous.

US Army

The logistics force must have the physical capacity to act on the knowledge provided by real-time visibility. This includes the array of materiel systems; the lean but adequate inventories; road, rail and facilities infrastructure; and skilled personnel. These capabilities include the materiel for physical distribution within theater and from the Continental United States by military or private vendor.

against emerging threats. The Army called this physical agility.

The RML transformation strategy supporting the AAN process was called Phase II. It anticipated that new materiel technologies would result in a lighter, more lethal, yet more projectable and sustainable force. Phase II concentrated on the requirements of a capabilities-based force.

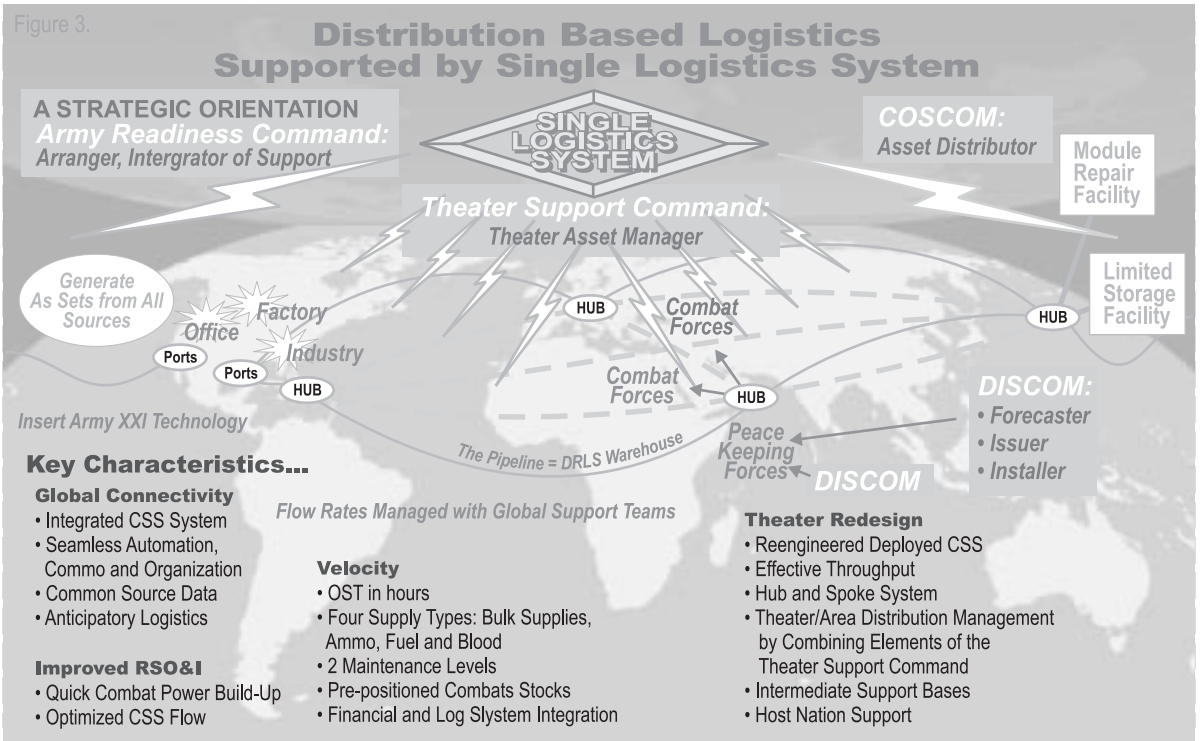
The new Army Vision has changed that by accelerating AAN into the near- and midterm and with it, Phase II of the RML. Both phases must now be completed concurrently. Consequently, the ASLP now refers to these as Track I, which is process oriented; and Track II, which focuses on requirements.

Track I focuses on logistic processes, encompassing modernization initiatives in automation, platforms, business process change, organizations, strategic mobility and technology insertion. It continues efforts to migrate Army logistics to a distribution-based system by 2010. This requires a comprehensive reengineering and integration of functional processes using best business practices, from the strategic to the tactical levels. Communications will link these processes to a single logistics information and decision-support system, known as the Global Command and Control System-Army (GCCS-A). All national logistics processes and information/decision-support systems will come under the authority and responsibility of the Army Readiness Command.

Track II represents what formerly was a long-range effort to support the AAN. The new Army Vision pushes that focus into the near future, with many of the objectives necessarily completed in time for the introduction of the objective force. Fundamental to Track II is a capabilities-based approach to logistics, focusing on platforms (soldier, weapon system or unit) linked through the operational level to the strategic level of logistics by an overarching integrated information architecture. Track II also includes that aspect of the Army capitalization program which addresses technology insertions into the legacy force. This integrated view of logistics permits focusing on the overarching challenge of the next century—gaining access (deployability) to a theater, quickly establishing control and providing enduring sustainment within that theater.

Additionally, the milestones associated with the logistics transformation strategy are being reoriented on the three Army phasing objectives, corresponding to the initial force, the interim force, and the objective force. For the sake of a consistent nomenclature, the three transition periods which lead to the standing up of these forces will be called the initial transition phase, the interim transition phase and the objective transition phase. These phases will be followed by a fourth, which we will call the standardization phase. This last phase represents the conversion of the entire Army from a mixture of interim brigade combat teams, the digitized corps and all

Figure 3.



TDAP II looks ahead to acquire the distribution capabilities necessary to support Army XXI and incorporates essential open issues from the original TDAP. Thus, the TDAP II becomes the action plan to create the DBLS that is the heart of the revolution in military logistics.

remaining legacy forces to a standard Army design.

Initial transition phase (present to December 2001). The initial transition phase, which runs until the two initial BCTs are activated, has been a period of intense, highly focused activity. The Army established the CS/CSS transformation task force as one of 10 task forces created to implement the Army Vision. It was charged with identifying ways to deploy forces more quickly and sustain them more efficiently. To date, it has identified or validated requirements for a single Army-wide logistics provider, improved battlefield distribution, split-based and reachback operations, total asset visibility and assured communications. It also identified requirements for improved strategic mobility directly supporting deployment and sustainment requirements associated with the prototype developments underway at Fort Lewis, Washington.

The Training and Doctrine Command (TRADOC) and the Combined Arms Support Command (CASCOM) are heavily involved in determining requirements associated with the BCT. These include the BCT organizational and operational (O&O) concept, to include the brigade support battalion, a support concept for the future corps and the authorization documents to create the new force structure. The initial phase will terminate at the initial phasing objective with the activation of the two initial BCTs in December 2001.

Interim transition phase (January 2001 to October 2002). The interim transition phase runs for approximately two years, until a specified number of interim BCTs can be activated to form the core of the interim force at the interim phasing objective. The initial part of this phase will be characterized by intensive test and evaluation of the initial BCTs to determine the full range of doctrine, training, leader development, organization, materiel and soldier (DTLOMs) requirements associated with the brigade. Additionally, the Army is adhering to its previous schedule to field the first digitized division by December 2000 and continuing its efforts to digitize one corps.

Above the tactical level, by the interim phasing objective, tier 1 of GCSS-A should be fielded, and the fielded organizational redesigns will include the tactical logistics organizations required to support the BCT, such as the brigade support battalion; the operational logistics organizations, such as the theater support command; and some theater elements of strategic logistics organizations, such as the Army Materiel Command Field Support Center (AFSC).

Objective transition phase (November 2002 to 2010). The objective transition phase runs for approximately eight years. Around 2010, a division-sized number of objective BCTs will be activated to form the initial core of the objective force at the objective phasing objective. The early part of this phase will be characterized by intensive efforts to identify and target technology with potential military application, to satisfy the conditions necessary to proceed with the development and acquisition of the objective force. During this period, the Army will continue digitizing the heavy force and complete digitizing the corps by 2004. During the objective transition phase, the Army will comprise a melange of the two initial brigades, the interim brigades, the heavy digitized corps, nondigitized heavy forces and a complex mixture of remaining legacy forces.

The Transformation Plan

The Department of the Army, Deputy Chief of Staff for Logistics (DA DCSLOG) initiated the total distribution program (TDP) in response to a tasking from the Vice Chief of Staff, Army (VCSA). The TDP was to identify and correct the deficiencies that impaired distribution responsiveness and efficiency during Operation *Desert Storm*. The VCSA approved the total distribution action plan (TDAP) for implementation in 1992.

Since 1992 the TDP has enhanced logistic responsiveness by redressing many shortcomings. In February 1997, the TDP General Officer Steering Committee (GOSC) directed a new baseline for the TDAP. The committee's guidance was to build on the program's success and incorporate the tenets of Joint Theater Distribution, an important outgrowth of the Army's battlefield distribution concept.

TDAP II addresses areas of concern that emerged from several rounds of studies chartered by the Army Science Board, TRADOC's Army After Next study group and TRADOC 1998-1999 wargaming activities. TDAP II directly supports the ASLP, and its success depends on many RML enablers. TDAP II is not constrained to just Army logistics issues; it also recognizes that battlefield distribution materiel involves other service and Department of Defense activities.

TDAP II looks ahead to acquire the distribution capabilities necessary to support Army XXI and incorporates essential open issues from the original TDAP. Thus, the TDAP II becomes the action plan to create the DBLS that is the heart of the RML. Management oversight is provided by the DBLS executive level (general officer/ senior executive services) steering group comprising the Army DCSLOG, CASCOM commander and AMC deputy commander. This steering group charters a DBLS integrated product team (IPT) to ensure:

Shortages, frequently created by enemy action, require establishing and juggling priorities to allocate limited materiel, transportation and human assets. Military logistics is the art and science of allocating both resources and shortages to support dynamic battlefield priorities. DBLS will ensure that supported units get their share of resources as allocated by the commander—just enough, just in time.

- All DBLS requirements are identified, prioritized and integrated.
- TDAP II accurately reflects those prioritized requirements in an executable strategy.
- The plan is synchronized and executed to support the Army's transformation path and milestones.

Performance Metrics

Military logistics distinguishes itself from its civilian counterpart in that resources are always constrained. There is never enough, and there is never enough time. Shortages, frequently created by enemy action, require establishing and juggling priorities to allocate limited materiel, transportation and human assets. Military logistics is the art and science of allocating both resources and shortages to support dynamic battlefield priorities. DBLS will ensure that supported units get their share of resources as allocated by the commander—just enough, just in time.

The current logistics system relies on supply mass but has many of the same components as DBLS. One could argue that the current system is already distribution based. But what distinguishes DBLS from the system it supplants will be the new set of performance metrics—the expectations—of the envisioned system. These metrics are currently being developed and revised to accord with the expectations of the new Army Vision. Certainly, all initiatives and programs must be qualitatively evaluated in terms of how they support the three tenets of visibility, capacity and control; plus cost metrics (force structure, inventory, dollars, personnel). Given that a particular program would be implemented with the characteristics stated in the requirements document, how would it cost effectively improve visibility (situational awareness), increase capacity or enhance command and control? And how does that particular program compare with similar benefits touted by a competing program? The DBLS IPT is charged with developing the specific (quantitative) metrics necessary to establish clear programmatic objectives for making management decisions and program revisions.

The Army must change Army Regulation 220-1,* Unit Status Reporting*, to require daily readiness status reporting. With the limited visibility provided by the current 30-day reporting period, the Army will be unable to project a five-division, fully combat-capable force to the other side of the globe. . . . It must also be prepared to redress any shortfalls, drawing on the total capabilities of the logistics system.

Clearly, some new metrics are required. For example, the Army must change Army Regulation 220-1, *Unit Status Reporting*, to require daily readiness status reporting. With the limited visibility provided by the current 30-day reporting period, the Army will be unable to project a five-division, fully combat-capable force to the other side of the globe. To get the force there, ready to fight, the logistics community absolutely must have daily visibility of units' logistic status. It must also be prepared to redress any shortfalls, drawing on the total capabilities of the logistics system. Additionally, readiness standards for these units may have to be raised above the current 90 percent value.

A second required performance metric is the need to track part requests by job order, rather than by requests for each of the separate parts which make up the job order. For example, if 100 different parts make up the job order to repair the system, it is irrelevant to the customer whether 99 parts arrive within three days—if the 100th arrives two months later. While the average customer wait time may truthfully be three days or less, the system is still down for two months. Thus, the logistics system has failed two customers: the warfighter, who needs a fully mission capable system; and the maintenance unit, which must repair it. The broken weapon system and its 99 repair parts require storage and inventory, adding logistic mass and increasing the in-theater footprint.

All programs that support DBLS must be continually assessed programmatically as well as in terms of the DBL tenets. What is the cost effectiveness of the program? What is the funding level? What is the schedule for implementation or fielding? Does it support the Army phasing objectives? What is the program's impact on DTLOMS?

Successfully implementing and institutionalizing DBLS means completing the key DBLS supporting programs within the TDAP II timeline. These programs are the foundation and make up the totality of capabilities required by DBLS. To determine whether DBLS has been implemented, the Army must develop and evaluate a number of measures in many areas:

- *Benefits*: What are the efficiency, cost avoidance and effectiveness advantages? Is there a cost benefit analysis?
- *Funding*: Is the program adequately funded?
- *DTLOMS*: Have these initiatives been filtered through DTLOMS to synchronize them with the rest of the Army?
- *Policy*: What policy changes are necessary?
- *Schedule*: When is a specific initiative ready for implementation or fielding? Which force capability does it support—initial, interim or objective? Do any modifications to the schedule adversely impact other critical programs?
- *Critical operational issues and criteria (COIC):* Does this new or improved system achieve the functional and specified performance criteria? These are usually developed and tested by the program managers in combat warfighting experiments.

The envisioned DBLS end-state is considered achieved when all the selected programs' benefits, funding, DTLOMS implications, schedule, policy and COIC criteria have been deemed completed. TDAP II is the strategic plan to achieve that end-state, and the DBLS IPT provides management oversight of the plan's execution. When fully implemented, DBLS will help the Army achieve the goals of the RML, satisfy the requirements of Joint Focused Logistics and ensure dominance at every point along the operational continuum. ***MR***

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51The Army Transformation—Learning While Doing

by Lieutenant Colonel Lon R. Seglie, US Army Reserve, Retired, and Captain April Selby-Cole, US Army Reserve

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Learning from doing and sharing the knowledge gained are the essence of organizational learning. By listening to the organization and fostering a dialogue about performance, the leader opens the door to learning, sharing lessons learned and reducing risk. By stretching the organization to act differently, to do new things in a learning atmosphere, the leader fosters an entrepreneurial spirit of innovation and growth.[1]

—Gordon R. Sullivan and Michael V. Harper

The Army faces many formidable decisions on how best to transform, so the sharing of information must be continuous. The collapse of the wall, the demise of the Warsaw Pact and advances in technology have led to a more flexible and lethal force-projection Army that maintains the capability for large-scale combat. Fortunately, history and determination have provided the Army with tools to change more rapidly and efficiently. The challenge is to use the tools to the Army's best advantage; therefore, the question is not "what to learn" but "how best to learn." Based on previous work by its leaders in this educational process, the Army has developed methods to assess quickly how best to learn. Actually, phrases such as "on the job training" and have been used for years to describe educating individuals to quickly become proficient in their roles. As many corporations struggle with methods to develop best practices, the Army has been building a foundation through in-dividual and collective learning for the past several decades.

The Army's continuing evolution into a learn-ing organization has taken time and determin- ation, but many objectives have been met. The ev-olution and the many advances in learning collectively provide a definite advantage for the Army. All that the Army has accomplished has set the stage for the acceptance of the lessons-learned process, a key method to manage change. Even so, nothing would help properly and rapidly change the Army if the Army were not willing to take an important step forward—to accept change.

Following Vietnam, the Army, through a concerted effort and succession of conceptual methods, accepted change and successfully transitioned to a true learning organization. The following short history reviews how the Army came to collect, process and disseminate lessons and information. Today's sharing enables the Army to work collectively toward transformation using the after-action review (AAR) process that has become the cornerstone for learning in the Army. The AAR process slowly but definitely moved the Army culture to embrace "learning from doing" and "while doing." The AAR was the driving force behind continuous shared learning, provided a new perspective for soldiers and leaders on learning and promoted continual collection and dissemination of tactics, techniques and procedures (TTP), and lessons learned. Learning while doing has become common practice and provides the Army the ability to "get it right quickly."

Starry-Wass de Czege Model

In 1983 General Donn A. Starry set forth seven generalized requirements for effecting change in an

Army (see figure). He argued that this framework was "necessary to bring to bear clearly focused intellectual activity in the matter of any change, whether in concepts for fighting, equip-ment, training or manning the force."[2]

Seven Requirements for Effecting Change:

A mechanism to identify the need for change, design parameters and describe the way ahead.

Rigorous, demanding and relevant background among those responsible for change.

A spokesperson for change—whether a person, institution or staff agency.

Spokesperson to build consensus and broaden support.

Continuity among architects for consistent efforts.

Institutional support for change.

Trials to show relevance and permit modifications.

Colonel Huba Wass de Czege built on this framework in 1984, underlining the importance of change: "Knowing why, when and how to change is key to maintaining an Army's effectiveness." He noted, too, the unprecedented difficulty of getting change right, given the unmatched complexity and rate of evolution in contemporary warfare. Wass de Czege added an eighth ingredient or constant precondition of successful change: the growth of theory (and, more generally, of theoretically-grounded knowledge and practice of the art and science of war).[3]

The Starry-Wass de Czege model resulted from reflection on the first 10 years of the Training and Doctrine Command (TRADOC)-driven, post Vietnam revival of the US Army, set in the context of earlier successful military reforms. Articulation of the model coincided with the launch and marketing of the concept-based requirements system (CBRS) and the School of Advanced Military Studies (SAMS). Both the CBRS and SAMS proved central to the next decade of change which culminated in victory in Panama, the Cold War and *Desert Storm*, and successfully began the Army's transition to a post-Cold War, information-age world.[4]

Based on major changes in the operational environment—a dismantled Warsaw Pact, down-sizing, and the frequent involvement in contingency operations—the Army once more confronts transformation and reorganization. Fortunately, current Army leaders can meet new challenges using concepts from previous leaders who worked diligently to provide a template for conducting future change. In addition, many of the early concepts are now institutionalized. The use of the AAR is standard Army procedure and is more ingrained than in any of the other services. The lessons-learned process has become a way to share knowledge and continually pursue change as the Army learns from involvement in major ex-ercises, the combat training centers, and combat and contingency operations. Along with the many advances in technology, the Army has become an organization for structured organizational learning.

The AAR Process

Although the AAR process has had a short history, it has a great impact on how the Army learns today.

Two major influences set the stage for the development of the AAR. The first was S.L.A Marshall's "interviews after combat," oral histories taken during World War II. The second was the performance critique. The critique was a technique used before the 1970s to provide feedback from tactical exercises. According to Army Training Circular 25-20, *A Leader's Guide to After-Action Reviews*, an AAR "is a professional discussion of an event, focused on performance standards, that enables soldiers and leaders to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses." In short, units can perform a collective self-examination and ask, "How did we do?"[5]

A successful AAR:

Occurs immediately after each event.

Involves all participants.

Occurs in a nonthreatening environment.

Links performance to subsequent training.

Follows a specific agenda.

Is formal or informal.

Focuses on individual, leader and group performance.

The development and acceptance of the AAR provided two essential elements that assist the Army as it transforms today and embraces new challenges in the future. First, the AAR provided the turning point for institutionalizing organizational learning. Second, the AAR presented the Army a tangible tool to "become" but never truly "be." Change must be continual. As General (retired) Gordon R. Sul-livan stated, "in the Army, the AAR has ingrained a respect for organizational learning, fostering an expectation that decisions and consequent actions will be reviewed in a way that will benefit both the participants and the organization, no matter how painful it may be at the time. The only real failure is the failure to learn."[6]

At the tactical level, the benefits of AARs are derived from collecting the results and applying the results to future training and operations. Leaders can then use the information to assess performance and immediately retrain units as necessary. At the tactical level, unless absolutely necessary, leaders should not delay or reschedule retraining.

Leaders must ensure that soldiers understand when they did not perform a task to standard, and retraining should occur as soon as possible. The AAR process at the tactical level is a dynamic link between executing tasks to standard and developing TTP. Based on a professional and candid discussion of the training events, soldiers and leaders can compare their performance against the standard and identify changes that will improve proficiency.[7]

The AAR's benefits to soldier ability are a microcosm of its potential on organizational and institutional learning. On a much larger scale, the Army can use the same method to change the entire force by learning while doing. The AAR process enables the Army to meet the standards of a transforming force, which can simultaneously encompass changes in doctrine, training, materiel, leadership, organization and soldier support (DTLOMS).

The Army Continues—Establishing a Knowledge Center

The next step in the Army's plan to share information, pursue organizational learning and change behavior was establishing the Center for Army Lessons Learned (CALL). Although initiated during World War II, General Marshall's process of acquiring lessons learned did not continue; however, the concept did survive and resurged during both the Korean and Vietnam Wars. The process originally required collecting lessons from distant operational theaters, then providing them to the training base and units throughout the Army.[8] Compared to the past desire to provide tactics, procedures, organization and equipment lessons, the present-day CALL has expanded its mission. CALL currently provides combat-relevant lessons learned, TTP, information and research material to the Army. The collection effort now includes active and passive collection across the spectrum of combat training centers (CTCs), contingency operations, combat operations and major exercises.

Active and Reserve Component officers of the 4th Infantry Division at the NTC.

The establishment in the early 1980s of tough, realistic, collective training for Army battalions and brigades at the National Training Center (NTC), Fort Irwin, California, provided the other main impetus for the revival of lessons learned. At the NTC, Army armor and mechanized units fought a Soviet-style opposing force in the rugged environment of the Mojave Desert, using advanced laser technology and instrumented tracking systems to simulate battle casualties and equipment losses. By the mid-1980s, a General Accounting Office report found that units repeatedly made the same mistakes at the NTC, and that a high percentage of these mistakes could be avoided if the lessons could be captured from this realistic training battlefield.

CALL was formed in the summer of 1985 at Fort Leavenworth, Kansas, to capture and disseminate lessons learned at the NTC across the Army. Most of the early work at CALL surrounded the analysis of extensive training feedback products provided to rotational units by dedicated professional trainers within the operations group, coupled with reports made by observers dispatched by CALL periodically to the NTC training battlefield. This analysis found its way into a number of CALL publications which were disseminated Armywide. By the end of the 1980s, the number of CTCs, grew to four, and the scope of the lessons-learned activities at CALL grew to incorporate the knowledge and experience gained from each of these unique training environments.

Tennessee National Guardsmen from the 196th Field Artillery Battalion preparing to join the XVIII Airborne Corps in Saudi Arabia, February 1991.

The CALL mission expanded in December 1989 with the US invasion of Panama. World War II and Korea had already demonstrated the need for

dedicated observers to gather lessons in the field according to a carefully crafted collection plan, and CALL naturally filled this role for the Army after 1989, with the collection of lessons from the Active Component, US Army Reserve and Army National Guard units engaged in operations or mobilizing to support combat operations during *Desert Shield* and *Desert Storm*. CALL continues to collect actively. CALL has collected during the Los Angeles riots, Hurricane Andrew and Operations *Restore Hope, Support Hope, Uphold Democracy* and *Joint Guard*. In addition, CALL maintains cells at each of the CTCs, continually working with observer/controllers, operations groups and units to collect and disseminate trends, lessons learned and TTP. CALL supports Army efforts to learn while doing.

The Lessons Learned Process and the AAR

The responsibility for collecting and disseminating the Army's lessons learned and TTP should not be a task for one agency—the Army as a whole is a learning organization. Army Regulation 11-33, *Army Lessons Learned Program: System Development and Application*, recognizes this problem and provides a solution. It also establishes CALL as the focal point for the Army lessons learned program and outlines the requirement to provide AARs, lessons learned and TTP to CALL.

During transformation, it is imperative that units and commands support the Army as a learning organization. Lessons learned and TTP must be disseminated throughout the entire Army for the process to be truly effective. Quality AARs must be conducted because the very essence of the Army's ability to grow and transition is deeply rooted in the AAR process. [9] Therefore, as the Army transforms, the activities that encompass the transition are very similar to the AAR. The AAR is a form of discovery learning that requires continual collection and dissemination, and many sources indicate that guided discovery learning is the most effective learning method. Hence, learning while transforming will provide the Army obvious benefits. The results will be more objective than subjective, and the outcome will be based on the collective wisdom of the Army. This continually updated knowledge will provide the Army the flexibility to change as necessary while transforming and lead to changes that are completed quickly and correctly.

Learning Organizations and Flexibility

Key Army challenges are how to best use the tools available to successfully transform while learning, meet requirements for the future and embed flexibility within transformation.

Peter Senge popularized the term "learning organization" among both civilian and military leaders. Senge defines the learning organization as one that is "continually expanding its capacity to create its future . . . it is not enough to merely survive. `Survival learning' or what is more often termed `adaptive learning' is important. . . . But for a learning organization, adaptive learning must be joined with `generative learning,' learning that enhances our ability to create."[11] Sullivan adds, "As we, the leaders, deal with tomorrow, our task is not to make perfect plans. . . . Our task is to create organizations that are sufficiently flexible and versatile that they can take our imperfect plans and make them work in execution. That is the essential character of the learning organization."[12]

According to Sullivan, organizational learning in its broadest sense will occur only when the

organization collectively is communicating, accepting and embedding what is being learned across the organization.[13] The organization shares the information based on a common need to change and improve.

Organizations must be flexible to accept new ideas or ways of doing activities to continue to move forward either for monetary requirements (profit) or, in the case of the Army, to save lives and accomplish the mission correctly the first time. In the case of the Army, the sharing can be defined as the exchange through a conduit (focal point) of lessons learned, information and TTP. Because policy and doctrine continue to change to support an organization, providing TTP focused on a particular subject area is not an end in itself. However, the continual information exchange across the spectrum of the Army produces progress and learning—no firm end state but a continual movement to share and learn. The organization will continue to develop rather than reach a set plateau, standard or culminating point.

CALL's Support of Transformation

Army Chief of Staff General Eric K. Shinseki announced last October that the Army would transform two brigade combat teams at Fort Lewis, Washington. Following Shinseki's announcement, the brigade combat team coordination cell (BCC) was formed to deliver two transformed initial brigade combat teams while incorporating DTLOMS feedback and command, control, computers, communication, intelligence, surveillance and reconnaissance (C^4ISR) requirements. The transformation mission is the responsibility of the Deputy Commanding General-Transformation, who assembled a team of Army agencies including Army Materiel Command, Army Testing and Evaluation Command and TRADOC proponents. This on-site collection of expertise and support will facilitate the transformation timeline. The BCC continues to shape the transformation effort, becoming a conduit to the institutional Army. With the magnitude of change occurring, it was evident to TRADOC that CALL would be a vital player. A CALL analyst was assigned to the BCC in April 2000, with the responsibility of documenting operational observations, developing lessons learned and producing TTP. This collection effort will assist the transformation of the follow-on brigades.

The CALL IBCT collection process actually started at Fort Leavenworth, Kansas, with the development of the collection plan. CALL is working from the plan titled "Army Transformation." The lead analyst for the effort is responsible for building the plan. The CALL analyst uses the CALL Collection and Observation Management System (CALLCOMS) database which becomes the collection effort road map. The collection plan focuses the collection effort, which then shapes the products. Using the Joint Universal Task List (JUTL) and the Army Universal Task List (AUTL), the analyst develops the following components:

- Issues (that span multiple events).
- Sub-issues (are functional-oriented from the AUTL).
- Questions (observed requirements and points of execution for the observer).
- The collection plan is a living document and changes are incorporated as necessary.

Population of the database (CALLCOMS) is derived from different methodologies, of which the AAR is most important. The AAR is the critical collection event. It is during the AAR that trends are developed. These trends lead the analyst to more focused observations, with the output being viable TTP. During critical IBCT events, CALL has the ability to send a Combined Arms Assessment Team (CAAT). The CAATs are task-organized teams of subject matter experts (SMEs) normally from TRADOC schools and centers. During a normal operating day, procedures at the BCC actually replicate a functioning CAAT,

with the CALL analyst collecting observations and lessons learned from the agency and proponent SMEs. This enables CALL to increase the collection process during the CALL analyst's normal operations.

Although the AAR is the critical observable event, other methodologies are used. Weekly brigade training meetings, interviews with soldiers and leaders, reviews of training plan development and numerous briefings are all critical data collection venues. The CALL analyst never compromises the integrity of the collection process and is focused on producing TTP to assist follow-on units.

The other part of the IBCT/BCC CALL analyst function includes research. With the emerging IBCT doctrine that includes full-spectrum dominance, units preparing for training look to CALL for past TTP from missions such as those in Haiti, Somalia and Panama. These TTP and lessons learned assist operations officers and commanders in their training and scenario development. Collection of these TTP and lessons learned is accomplished through the use of the CALL website. Newsletters, handbooks and real-world training vignettes are all available on the public access website (http://call. army.mil). This tool gives the CALL analyst and units direct access to hundreds of CALL publications and links to additional sites.

Although change is nothing new to the Army, the speed of this transformation effort is. Providing two transformed brigades by the year 2002 is a bold challenge to the DTLOMS strategy. Every segment of our Army is affected in some way. What CALL does to empower the transformation process will have a lasting effect for years to come. ***MR***

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PHOTOS:
US Army

Transforming the Reserve Components

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FEW INSTRUMENTS of foreign policy provide as visible a sign of American determination to shape the international environment toward peace than the presence overseas of the US Army. In transition states like Kosovo and Bosnia, only ground forces can physically police urban areas, establish checkpoints, conduct search-and-seizure and disarming operations, detect and clear minefields, and resolve conflicts among local inhabitants of different ethnicities. But in an age of decreasing military budgets and ever-expanding requirements to deploy ground forces for peacekeeping and stability operations, the US Army is stretched to its limit; its soldiers are exhausted and leaving the service at alarming rates. Not surprising, the Army has increasingly turned to the Army National Guard (ARNG) and US Army Reserve (USAR) for relief. Anticipating a trend of continued peacekeeping deployments, the Army is making a great effort to integrate the Active and Reserve Components (AC and RC) to meet current needs and transform the RC to meet future crises and contingencies as far out as 2025.

Reaching a consensus on a vision for RC transformation promises to be troublesome. All three components—the AC, the ARNG and the USAR hold distinct institutional imperatives for the roles they believe each component should have a quarter-century from now. AC and RC integration should not be confused with any consensus about the future of the USAR. Whereas integration initiatives like that of the newly designated AC/ARNG divisions demonstrate closer integration, no similarly shared mental picture exists for describing USAR organization and missions in 2025. Conceiving that future picture is a key step toward establishing a basis for consensus.

This article examines three important aspects of the ongoing change process. The first section reviews the impact that future war will have on each institution. The second section studies these impacts further to determine potential opportunities for reestablishing roles and missions for the ARNG and USAR that will enhance their institutional imperatives while complementing those of the active force. The last section posits a "seamless-centric" RC force structure that supports the vision of one seamless Army.

Establishing superior strategic, operational and tactical speed will also place a premium on reducing the logistic tail for fighting forces in ways that will threaten RC relevance. Advances in information-age technologies will also reduce the overall need for cumbersome service and support units; primary RC functions.

The comparative analysis suggests that the anticipated nature of future war and the emerging revolution of military affairs will work against assigning high tech, information-age roles to the ARNG and the USAR. However, the ARNG and the USAR will all but replace AC forces in the key role of "shaping" the international security environment.

Criteria for Dominance

"Knowledge, speed and power" are the core of Army transformation. Emerging technologies of the information age will enable future maneuver forces to "see with unprecedented clarity . . . anticipate with unparalleled sureness . . . accelerate the pace of movement with unequaled velocity and maintain an unrelenting operating tempo" to traverse the killing ground untouched and decide a campaign with minimal loss of life to all sides.[1] The investment seems prudent as the broad range of dangers anticipated

for 2025 will demand a force that can "strike rapidly, decide quickly and finish wars cleanly."[2] Indeed, the four-prong research paths outlined in Joint Vision 2010, the armed forces' conceptual mid-range plan for creating the future forces of 2025, all aim to achieve "full-spectrum dominance": dominant maneuver, precision engagement, full-spectrum protection and focused logistics.[3] While the exact nature of the future security environment of 2025 remains an educated guess, it is clear that the US role in that complex future environment will remain active and global. Thus, the need for an adaptable, capabilities-based, dominant land force that can respond to a broad spectrum of dangers in peace, crisis and war is paramount.[4]

The revolution in information technology does not mean that all future forces will necessarily possess the full complement of knowledge-based technologies. Besides cost restraints, operational precedents suggests limiting technological advances to only a small, but highly skilled, quickly deploying, front-edge force. Only 10 army divisions out of 117 in the* Wehrmacht's *blitzkrieg forces of World War II, were armored.

Thus far, however, the transformation has focused on the possible designs and characteristics of an AC information-based land force.[5] What the changes in information technologies might hold for RC forces is less clear. Indeed, the very criteria for an information-age force seemingly argue against assigning an information-age role to the ARNG and USAR. For example, inherent in the argument for speed is the deep desire to avoid casualties. Information-age forces, according to one informed observer, will therefore be designed to conduct "burst operations" as opposed to sustained campaigns. Burst operations will not require or even allow mobilization and will render reserve forces inconsequential.[6]

Establishing superior strategic, operational and tactical speed will also place a premium on reducing the logistic tail for fighting forces in ways that will threaten RC relevance. Advances in information-age technologies, such as alternative fuel sources and fuel-efficient, ultrareliable fighting vehicles, coupled with the distribution-based, seamless logistics system will also reduce the overall need for cumbersome service and support units; primary RC functions. Technologies arising from the ongoing age of revolutions are also making possible the much-heralded revolution in military logistics (RML).[7] Focused logistics is the end objective; precision logistics is the means.[8] The result is that fewer logisticians will be needed to get the right amount of the right supplies to the right customers at the right place at the right time.

But the distribution-based logistics system will bring unintended and unwelcome changes to traditional RC support roles and missions. As a smaller, more capable and immediately responsive AC sustainment force improves its technologies it will rely less on the reserves. The slower-mobilizing reserve forces should not be automatically considered as a follow-on option either. Rather, fighting forces may turn to a more quickly accessible and strategically agile civilian-contracted sustainment force.[9] Like burst operations, the attraction here is strategic speed. While the traditional RC ownership of combat service support core competencies will remain intact, the requirement for strategic speed will render their services moot during the critical opening stages in future wars. Instead, a corps of civilian contractors will fill the strategic agility gap on the future battlespace thus avoiding the political consequences of calling out citizen-soldiers.

A professional corps of "battlefield" civilian contractors perhaps most threatens the relevance of the USAR. Transformation planners have stipulated that the single most important improvement needed to achieve the revolution in military logistics is neither knowledge nor speed, but rather a "radical reduction in sustainment requirements."[10] The corollary message should not be underestimated either. A smaller information-age AC force could direct a larger civilian-based sustainment force that lacks RML technologies but is strategically agile and immediately deployable. The RML requires an immediately responsive and professionally competent sustainment force, military or civilian.

Under such an understanding, RC dominance in service-and-support core competencies will be challenged by the combination of a revolution in military and business affairs in both the AC and civilian-contracted sustainment force. Future logistic support could come from the nearest available in-country civilian economic source instead of a USAR corps support group that deploys 30 days after mobilization. Such a timeline is too slow for burst operations and perhaps even traditional campaign operations, particularly during the opening phases of a conflict. This point was underscored in a wargame when forces arriving on the battlespace within only

Federal Express

Rapid commercial delivery is central to just-in-time logistics.

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five days of notification were already too late to seize the initiative or be decisive.[11] Shortcomings in establishing strategic speed also have political consequences, as demonstrated by the delayed deployment of Task Force *Hawk* from Germany to Albania in summer 1999.[12]

When ARNG combat forces are considered, the picture becomes even dimmer. The revolution in information technology does not mean that all future forces will necessarily possess the full complement of knowledge-based technologies. Besides cost restraints, operational precedents suggests limiting technological advances to only a small, but highly skilled, quickly deploying, front-edge force. Only 10 army divisions out of 117 in the *Wehrmacht's* blitzkrieg forces of World War II, were armored. But that fraction, transformation planners point out, was enough to revolutionize warfare at the operational level. Likewise, planners maintain that only part of the future land force will require the deployability and maneuver capability to resolve a crisis or immediately dominate the future battlespace.

In transformation-parlance these would be the strategic preclusion forces designed to stop aggressors dead in their tracks before the shooting ever starts or widens beyond a limited area. Conceivably, this could be the preserve of the initial brigade combat teams at Fort Lewis, Washington. Despite the fact that the ARNG owns over 54 percent of the total Army combat forces, with its most-ready units requiring a minimum 90-day mobilization lag, that high percentage will not weigh as heavily on the AC by 2025. Therefore, whatever the concept for distributing knowledge-based assets in the future, it will almost certainly not include ARNG combat forces.[13]

The low priority is only logical. Under pressure to balance anticipated requirements for information-age knowledge, speed and power against cost, accessibility and knife-edge readiness, planners will be forced to limit their most advanced technologies and training to front-edge forces. The order of priority for arranging dominant forces seems to reinforce the point. Of the main categories for deployable combat forces, the ARNG will most likely be folded into "campaign forces," the last in the deployable pecking order. Special operations forces are in a separate category and homeland defense forces are, by definition, not deployable.[14]

Moreover, if the poor showing of the 116th Idaho National Guard enhanced Armored Brigade's rotation to the National Training Center (NTC) in July 1998 is any indication, the ARNG will need fundamental resourcing and training changes to achieve appropriate readiness and fulfill its 90-day deployment requirement. Assembling 4000 soldiers from 40 different states—all with varying degrees of

US Army

Kentucky ARNG troops conduct a MOUT training exercise at Camp Blanding, Florida.

Two distinguishing features of shaping operations point to a unique opportunity for recasting a more relevant and responsive role for the ARNG and USAR in the 21st century. First, shaping operations have thus far not required manpower-intensive combat maneuver training. Policing urban areas, establishing checkpoints, conducting searches and seizures or resolving conflicts among local inhabitants are mainly the work of small teams; squads, platoons and sometimes companies.

readiness—caused the 116th to cancel its live-fire portion of the rotation, something almost unheard of among AC forces.

Similar problems arose during the 1999 rotation of the 155th Mississippi Enhanced Brigade, prompting a new round of questions on the ability of any ARNG brigade to deploy within 90 days.[15] Anticipating these realities, the 1998 Army After Next Spring Wargame concluded that the "active component will probably have to 'buy time' for ARNG combat forces to achieve full [post-mobilization] readiness."[16]

Certainly some fraction from both reserve components will enjoy an enhanced role in the future, such as civil affairs and psychological operations forces and units with front-edge missions (though their effectiveness and force structure have been questioned).[17] But the ARNG and USAR as a whole will almost assuredly not be fully transformed technologically. The costs and operational concerns mentioned above are but two reasons why. The reality of the future security environment is another and may render all other points moot. The anticipated nature of future war that burst operations represents, if it holds, will be enough to make the case against assigning information-age roles to the ARNG and USAR without the need for any formal pronouncements. Nor will there likely be any open challenge within the Army to the RC core competencies in service and support functions. Such challenges will come from the civilian sector as a natural, if not fully understood, consequence in the drive for knowledge, speed and power.[18]

Indispensable Roles and Missions

Despite their technological limits, the ARNG and USAR will remain institutionally solvent. Reserve forces will indeed have a vital role in the 21st century, if a lower priority for information-based capabilities. The ARNG and USAR will not be marginalized as a fighting and supporting force, even if burst operations become the norm. In fact, the political-military requirements anticipated for 2025 could lead to an indispensable RC role. More-

US Navy

US and Chinese naval officers salute as Marines present the colors aboard the guided missile cruiser USS *Reeves* in Qingdao harbor. Army RC participation in shaping operations will likely increase.

Shaping operations are part of an active, deliberate campaign to bring transition states, like Russia and China, into the family of core states made up of free-market democracies. For US forces, these operations range from military-to-military contacts, port visits, combined exercises and training, security assistance, and interoperability and peacekeeping missions.

over, these new roles and missions will complement their institutional strengths, minimize their weaknesses and fill a critical military strategy gap.

As an example, Army planners are anticipating that the United States will continue to pursue a national security policy comparable to the current policy of enlargement and engagement. The United States intends to enlarge the community of democratic states while engaging that community to establish market-based economies. Indeed, the powerful bipartisan National Security Studies Group (NSSG) reinforced this goal by listing as its first major assumption in its August 1999 *Phase I* report that the United States must continue its role in "shaping the international environment." "Active American engagement cannot prevent all problems," conceded the NSSG, "but wise policies can mitigate many of them."[19] Should this policy goal continue into the next century in one form or another, as seems likely, then the most appropriate national military policy for supporting enlargement and engagement is the present strategy of shape, respond and prepare. The trifold strategy intends that the military help shape the international environment to set an effective foreign policy, respond appropriately to a crisis that threatens US national security and continue to transform the force to prepare it for emerging security challenges.[20]

Of the three broad roles and missions, "shape" operations may maximize US military power to realize enlargement and engagement goals and secure vital US interests.[21] The ARNG and USAR may actually create new core competencies in this area that could ultimately revitalize the force. Shaping operations are part of an active, deliberate campaign to bring transition states, like Russia and China, into the family of core states made up of free-market democracies. For US forces, these operations range from military-to-military contacts, port visits, combined exercises and training, security assistance, and interoperability and peacekeeping missions.[22]

Such shaping operations have dominated Army attention during the post-Cold War era. Peacekeeping operations (Bosnia and Kosovo), nation-building and humanitarian operations (Haiti and Honduras) and stability operations (East Timor) have all become common since the fall of communism. Shaping operations have also forced the Army to modify its traditional training models. In preparing for peacekeeping operations, the Army has introduced a set of training requirements distinct from those for collective maneuver warfare to

produce new skills and core competencies to meet the challenges of military operations other than war (MOOTW).

At training centers such as the Joint Readiness Training Center (JRTC), Fort Polk, Louisiana, and the Combined Maneuver Training Center (CMTC), Hohenfels, Germany, combat units learn how to police urban areas, establish checkpoints, conduct search-and-seizure and disarming operations, detect and clear minefields, and resolve conflicts among local inhabitants of different ethnicities. The training, like the actual peace operations, is difficult and dangerous. Soldiers require extraordinary individual discipline to refrain from using deadly force even if it might be warranted.[23] Indeed, the JRTC and the CMTC have employed Balkan foreign nationals to help create a more realistic MOOTW urban training environment. Cultural and historic training is another important component of shaping preparations. Soldiers learn about the geography, climate, people, history, politics, government, economy and infrastructure of the region to which they deploy. Training for MOOTW is aimed at understanding how to turn belligerents toward peace.

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Two distinguishing features of shaping operations point to a unique opportunity for recasting a more relevant and responsive role for the ARNG and USAR in the 21st century. First, shaping operations have thus far not required manpower-intensive combat maneuver training.[24] Policing urban areas, establishing checkpoints, conducting searches and seizures or resolving conflicts among local inhabitants are mainly the work of small teams; squads, platoons and sometimes companies. But such tasks still require strong unit cohesion and self-discipline so critical—and common—among combat arms units. The ARNG has plenty of these assets. Its Achilles heel has always been managing complex collective maneuver warfare, not cohesive operations at the company level and below.[25]

Second, reservists are better inclined for expeditionary missions. Scholars such as Morris Janowitz, Samuel Huntington and Charles Moskos have emphasized this point for some time.[26] But the international security arena of the last hundred years had never really tested those conclusions the way the post-Cold War environment has. Therefore, it was only mildly surprising when a recent study found that ARNG soldiers who had served on Sinai duty (1995) were more likely to possess a constabulary ethic, which calls for both impartiality and minimal use of force, than were their AC counterparts from the 10th Mountain Division who had served in a variety of shaping operations from Somalia (1993) to Haiti (1994).[27] The study found that "overall, the active duty soldiers in the 10th Mountain seem to have a more martial and somewhat less pacific view of peacekeeping than do soldiers in the composite 4-505th Parachute Infantry Regiment, most of whom were from the National Guard."[28] Thus the substitution of vigorous peacekeeping training for maneuver exercises and the cultural inclination among reservists for shaping missions suggest openings for new RC roles in 2025.

The Seamless-Centered Alternative

The benefits seem almost too transparent. The ARNG could greatly enhance its future military relevance by jettisoning some of its heavy force structure in favor of lighter forces that are more adept for shaping operations. If the ARNG were to trim just one-third of its heavy forces and reconfigure a portion of its other enhanced brigades into four highly skilled expeditionary divisions, all four divisions could be made deployable before the 90-day window. One of those divisions, as will be shown later, could even be made ready within 30 days of notification. The USAR could also be recast to be more relevant and responsive.

But benefits are often a matter of perspective, particularly if one of these institutions must lose part of its force structure for the greater good of the Army. Institutional imperatives will clash with the imperative for a more relevant and responsive seamless-centric Army. A seamless-centric Army cannot exist unless all three components possess a common vision for the role that each will have in the future and a unified acceptance of the institutional obligations each must bear. Therefore, the RC of 2025 must be described with the AC future.

Adapting to the future will be more formidable for the AC than the RC because the AC is overly committed to all three phases of the shape-respond-

prepare strategy. Above all, the AC desire to immediately respond with dominant information-age power to any crisis anywhere around the world is the institution's utmost imperative for the future.[29] Yet, advanced technology has not yet made a difference and perhaps never will in expeditionary operations. Keeping its forces sharp for the possibility of fighting two simultaneous contingencies while responding to a host of crises around the globe has stretched the active force to its breaking point. As a result, the AC is relying more heavily on the RC to meet its expeditionary duties. Still, greater end strength would not answer the most pressing dilemma that expeditionary duty imposes: diversion from maneuver warfare training.[30] Pressures of expeditionary duties tear at the AC institutional soul by continually pushing away from the perceived imperative.

Without adding soldiers or changing strategy, the AC has an opportunity to increase its future relevance, establish a more appropriate balance to its shape-respond-prepare commitments and pare its structure to an eight-division equivalent. The structure's primary aim is to protect the AC ability to project dominant military power swiftly. These forces, two-thirds of the entire active force, are reserved only for those missions (and training) that call for precluding or quickly ending a shooting conflict.[31]

Of the three remaining divisions, two are assigned as reinforcing forces, to be ready to deploy within 30 to 45 days, and one division plus the 11th Armored Cavalry Regiment are committed to ongoing experimentation and maneuver warfare training. Only in an emergency situation will the two reinforcing divisions be used to support shaping operations, which is the primary responsibility of the ARNG. Thus, while the two reinforcing divisions are subject to expeditionary duty, they are at the back end of the queue. Training to fight with dominant knowledge, speed and power is the primary AC focus.

Political-military requirements anticipated for 2025 could lead to an indispensable RC role. Moreover, these new roles and missions will complement their institutional strengths, minimize their weaknesses and fill a critical military strategy gap. As an example, Army planners are anticipating that the United States will continue to pursue a national security policy comparable to the current policy of enlargement and engagement.

The active force will still bear a prominent share for shaping operations. In a reverse of a useful idea that was badly marginalized during the pre-*Desert Storm* era, three active maneuver brigades will be permanently assigned as roundout brigades to three tri-ARNG expeditionary divisions (Tri-A Xpd Div). Except for these three brigades, the active force will be used primarily to preclude or quickly end a shooting war — not conduct MOOTW.

ARNG changes will be profound. Through the Army National Guard Division Redesign study (ADRS), the ARNG hopes to recreate its entire institutional makeup to meet the needs of the future. Above all, genuine participation in the National Military Strategy is the Army National Guard's institutional imperative.

Under ADRS, the ARNG plans to reconfigure its current structure of 15 enhanced brigades, eight low-priority divisions and three stand-alone (non-divisional) brigades into 10 divisions and six stand-alone brigades. Of the 10 divisions, three will keep their

ARNG Division Redesign Study (ADRS)

CURRENT	ADRS (FY99-09)	Seamless-Centric ADRS (FY99-09)
15 Enhanced Brigades (eBdes)	3 Div (as currently designed)	3 Expeditionary (Xpd) Div (-) (1 AC bde in each Div)
8 Infantry divisions (low priority)	3 Div (w/1 eBde in each)	1 Xpd Div (all 3 maneuver brigades are ARNG)
3 Separate brigades	1 AC/ARNG Div (3 eBdes–L)	1 AC/ARNG Div (3 eBdes–L)
	1 AC/ARNG Div (3 eBdes–Hvy)	1 AC/ARNG Div (3 interim eBdes)
	2 Composite divisions	4 Enhanced-Home Security Div (1 eBde each)
	6 Stand-alone brigades	4 Stand-alone brigades
	12 Bdes convert to meet CSS needs	*15 brigades convert to meet CSS needs*
TOTALS	**TOTALS**	**TOTALS**
8 Divisions (low priority)	10 Divisions (9 eBdes)	10 Divisions (10 eBdes)
15 eBdes	6 Stand-alone brigades	4 Stand-alone brigades
3 Stand-alone brigades		(figures match seamless-centric structure above)

old structure; three will include an enhanced-brigade in place of a traditional divisional brigade; two are committed to the newly designed AC/ARNG divisions (7th and 24th Infantry); and the last two will be a composite of the divisional brigades left over after the ADRS is completed.

Additionally, 12 divisional brigades are earmarked to convert to combat support and combat service support functions, shoring up a projected shortfall of 124,800 support soldiers.[32] By trimming most of its low-priority divisions, strengthening others by mixing in high-priority enhanced-brigades and converting much-needed billets to support troop shortfalls, the ADRS will improve the institution's warfighting efficiency. But improved efficiency does not necessarily mean a more relevant, deployable force for the future. In the main, the ADRS promises only a more efficient maneuver-oriented, armor-laden portrait of its old self.

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Correcting these flaws is the heart of the proposed seamless-centric ADRS, shown on the right column of the accompanying figure. First, shaping missions are the object of ARNG's new federal-mission focus; expeditionary divisions are its primary means. Three of the four expeditionary divisions will be resourced as enhanced-divisions and assigned one active maneuver brigade as their roundouts. While all of the four expeditionary division's three brigades will remain ARNG-pure organizations, they will receive the same training and resources as the other divisions.

The seamless-centric alternative will convert 15 brigades-worth to sustainment troops instead of 12. While the two AC/ARNG divisions are already established, the three heavy enhanced-brigades in the 24th Infantry Division must trim their fighting weight to a more deployable medium-heavy division of wheeled or light-skinned armored fighting vehicles. For the same reasons, one of the AC home-based divisions will also transition to a medium-weight force.[33] The last four divisions are for home security and include high-priority, enhanced-brigade roundouts. Under the category of home security are the 10 congressionally funded rapid assessment and initial detection teams designed to assist law enforcement officials and firefighters nationwide in a chemical and biological incident.[34] In addition to their focus on homeland defense, these home security divisions will also provide reinforcing support to the four expeditionary divisions.

Altogether, eight ARNG divisions, including three active maneuver brigades and three enhanced-brigades, will constitute the Army's expeditionary force commitment to shaping operations. The addition of the active and enhanced brigades will improve effectiveness in the ARNG spectrum of operations which ranges from nation building to maneuver warfare. With such a large commitment comes the opportunity to balance the MOOTW load—prevent repetitive deployments, lessen the employer-reservist tension and improve the soldier's overall quality of life.

Additionally, just as the 82nd Airborne Division keeps one brigade of three on a high alert status, a "deployment-ready division" system must be established to rotate the responsibility to deploy within 30 days among the four primary expeditionary divisions. The arrangement will reduce personal turmoil among citizen-soldiers who have had to juggle civilian jobs with alerts that can drag on for months before official orders to mobilize.[35]

Genuine RC participation requires a more appropriate rank arrangement. Not since the days of Revolutionary America has the ARNG matched military authority with military capability. Since the majority of the Army forces, both AC and RC, will fall under the shaping spectrum of war, the ARNG and USAR will clearly have a prominent voice over a significant portion of Army operations. Commensurate with that preeminent role, a new four-star position of commander in chief, Expeditionary Forces (CINC-Xpd) must be established for the ARNG senior leader, and both the director of the Army National Guard and chief of the Army Reserve should be upgraded to three-star billets. The position of CINC-Xpd will be on par to those of the existing CINCs and, like them, subordinate to the Joint Chiefs of Staff (JCS) and JCS chairman. The long overdue upgrade for the ARNG and USAR leadership will be matched by roles and missions befitting the rank.[36]

Perhaps no other component has a greater desire for adapting to the future than the USAR. This is because the Army's future is the USAR's future, particularly where the AC is concerned. The USAR controls all of the Army's chemical brigades, enemy prisoner-of-war brigades, training and exercise divisions, and institutional divisions. The latter two di-

US Army

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visions provide training and training support for all components, including initial entry training, soldier skills qualification and Reserve Officer Training Corps. The USAR also maintains 97 percent of the Army's civil affairs units, 80 percent of the medical and transportation brigades, and 66 percent of the medical groups and theater signal commands.[37]

Aside from losing two of its overseas regional support commands based in Germany and Hawaii to underwrite the ARNG's overseas command and control headquarters for expeditionary operations, the USAR's proposed changes are internal. Of the three institutions, the USAR is the only branch that is already relevant to the nature of future war regardless of the operational categories along the spectrum of war. Whether the operations are for nation building, peacekeeping, contingency warfare or full maneuver war, the USAR core competencies and training schemes will probably remain unchanged. Administering medical support, purifying water, delivering ammunition, and establishing communication nodes or evacuating and registering the fallen are basic services for any army no matter what the future might hold.

Improving the USAR's core competencies is therefore not a pressing issue. What concerns the USAR most is maximizing the relevance of its core competencies against the future demands for strategic speed. Thus, for the USAR, improving on its ability for rapid mobilization of ready units is its uppermost priority. Unlike the other two components, however, "strategic speed" for the USAR means individual reservists must be personally ready to mobilize for deployment. This unique anomaly exists because the vast majority of reserve units are made up of companies or modularized detachments of companies. Institutional readiness is therefore not determined by evaluating ready brigades or divisions but at the lowest level of command—the company.

Recognizing this truth, the USAR has acted accordingly. In a far-reaching and costly (diverted strength) move in 1996, the USAR created the Readiness Command, an in-house, independent two-star command whose primary mission is to enhance the mobilization readiness of companies. Under the Readiness Command, nine command assistance and assessment teams (CAAT) spearhead an unprecedented effort to engender a culture of readiness at the company level. Like other traditional readiness inspection teams, CAATs are staffed with functional experts who conduct no-nonsense evaluations of unit mobilization readiness. What makes the CAAT unique is its mandated role to also coach,

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teach and mentor company-level leaders on the challenges of mobilizing citizen-soldiers.

Normally, these functions would be performed by the parent organization. But in the USAR, that leadership chain stretches over several states since reserve companies are located to sustain recruitment. Transportation companies, as an example, are sited near rural civilian trucking districts or medical companies next to urban areas where civilian hospitals are nearby, but the battalion or brigade leadership may be located a state or more away. Worst, many subordinate units fall administratively under battalions and brigades with different branch skills. For example, a postal company might be aligned under a chemical battalion or a transportation company under a quartermaster battalion.[38] Thus, CAATs were designed as much to provide high-value mentorship directly to company-level leaders as much they were to evaluate and improve unit mobilization readiness.[39] The Readiness Command has also ensured that its surrogate leadership formula does not lead to a separate leadership chain.[40]

In the last year alone, the renewed focus on mobilization readiness improved readiness over 10 percent across the USAR. Part of this success must be attributed to the USAR's commitment to fill critical leadership gaps in its chain. For the future, the USAR will meet its most pressing challenges of creating strategic speed by ensuring that citizen-soldiers can deploy when called.[41]

A Covenant Renewed

There are other force structure proposals for the future Army. Too many of them, however, have focused on creating knowledge, speed and power at the expense of drawing the Amy closer together as a unified, complementary fighting force. Even now force designers seek to stretch the AC into a full-spectrum fighting force. But attempting to create dominance without proper introspection may tear the Army apart before the first shot is fired.

For all three components to serve their institutional imperatives, each must give something up—either force structure or information-age roles—and soon. The Army is already paying for its perceived loss in relevance by being passed over for key joint commands traditionally held by the Army.[42] What lies ahead is more than just a challenge to create a new force structure. Unless all Army components share a common vision for their future roles and demonstrate trust to that vision by shouldering their appropriate obligations, the loss in prestige will continue and the vision will remain elusive. ***MR***

NOTES

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3. John M. Shaliskashvili, "Joint Vision 2010: America's Military, Preparing for Tomorrow" (Washington, DC: Department of Defense, Office of the Chairman of the Joints Chief of Staff, 1996); Dennis J. Reimer, "Army Vision 2010" (Washington, DC: Department of the Army, Office of the Chief of Staff, United States Army, 1996); and the other services' "vision of future war" at www.dtic/doctrine/jv2010.
4. Hans Binnendijk, "A Strategic Assessment for the 21st Century," *Joint Forces Quarterly* (Autumn 1996), 67-8; Steven Metz, "Which Army After Next? The Strategic Implications of Alternative Futures," *Parameters* (Autumn 1997), 15-26; and Philip A. Odeen, et al., *Transforming Defense, National Security in the 21st Century: Report of the National Defense Panel* (Arlington, VA.: National Defense Panel, December 1997). For studies on the possible roles of land power forces in the 21st century see Douglas C. Lovelace, Jr., *An Evolution in Military Affairs: Shaping the Future US Armed Force* (Carlisle Barracks, PA.: Strategic Studies Institute, 16 June 1997); William T. Johnsen, *Redefining Land Power for the 21st Century* (Carlisle Barracks, PA.: Strategic Studies Institute, 7 May 1998); and Ralph Peters, *Fighting for the Future: Will America Triumph?* (Mechanicsburg, PA.: Stackpole Books, 1999). National culture may up the demand for "clean" wars in the future as suggested by F.G. Hoffman, *Decisive Force: The New American Way of War* (Westport, CT: Praeger, 1996); and Gary Hart and Warren Rudman, et al., *New World Coming: American Security in the 21st Century*, at www.nssg.gov.
5. Indeed, the same can be said of many other aspects of Army programs, including general readiness concerns. Very few civilian or military think tanks and war colleges study reserve readiness issues, despite the fact that the reserve forces make up more than 54 percent of the Total Army force. Take for example, Gary Hart, *The Minuteman: Restoring an Army of the People* (NY: Simon & Schuster, 1998), which nostalgically overlooks the many structural flaws preventing the citizen-soldier from being prepared for maneuver warfare; and Stephen M. Duncan, *Citizen Warriors: America's National Guard and Reserve Forces & the Politics of National Security* (Presidio, CA: Presidio Press, 1997), which aggregates too much emphasis on the citizen-soldier's role at the federal level at the expense of their state mission. One important exception, though somewhat controversial, is James L. George, "Is Readiness Overrated?: Implications for a Tiered Readiness Force Structure," *Policy Analysis* (29 April 1999), 17.
6. Metz, "Which Army After Next?" *Parameters*, 16.
7. Claudia Kennedy, *The Age of Revolutions* (Carlisle Barracks, PA: Army War College, Strategic Studies Institute, March 10, 1998), 1-6.
8. Johnnie E. Wilson, et al., "Our Revolution in Military Logistics—Supporting the 21st Century Soldier," *Army Logistician: Information Age Technology* (January-February 1999), 3-6; and John M. McDuffie, "Joint Vision 2010 and Focused Logistics," *Army Logistician: Information Age Technology*, 7-9.
9. Okonski, "Revolution in Military Logistics: An Overview," *Army Logistician* (January-February 1999).
10. Richard O. Handley, *Past Revolutions, Future Transformations: What Can the History of Revolutions in Military Affairs Tell Us About Transforming the US Military* (Santa Monica, CA: Arroyo, RAND Corp., 1999), Chapter 6. According to Handley, RMAs are all about core competencies, "creating new ones and upsetting old ones."
11. The five-day delay gave RED Forces adequate time to plan and execute asymmetric strategies like hiding in cities and shielding its forces with noncombatants. Walter L. Perry, Bruce R. Pirnie and John V. Gordon IV, *Issues Raised During the Army After Next Spring Wargame* (Santa Monica, CA: RAND, 1998), xi, 17-18; and Mindy Anderson, "Putting the Best Force Forward," *Soldiers* (December 1998), 45-7.
12. The experience of Task Force *Hawk* has led General Shinseki to cancel plans for the "Strike Force." See Sean D. Naylor, "Task force considers developing a medium-weight force," *Army Times* (4 October 1999), 8.
13. The point was made in both the 1997 and 1998 annual Army After Next Reports; respectively, see TRADOC, *Knowledge & Speed*, August 1, 1997, A-2; and John N. Abrams, *Knowledge & Speed: Battle Force and the US Army of 2025.* The 1998 Annual Report on the Army After Next Project to the Chief of Staff of the Army (Fort Monroe, VA: US Army Training and Doctrine Command, 7 December 1998), 10; Mark Faram, "Equipping the Guard in the 21st Century: Interoperability with Active Forces Critical to Modernization," *National Guard* (September 1999), 22-8; and Kevin McAndrews, "Enhanced Brigades: As the Army struggles to modernize itself, the ARNG's enhanced brigades want for critical warfighting equipment," *National Guard* (September 1999), 69-71. For "Strike Force" see Sean D. Naylor, "Army unveils strike force blueprints," *Army Times* (1 March, 1999), 8-9; Sean D. Naylor, "Strike force concept could spread," *Army Times* (11 May 1998), 16; and Commentary, "Strike Force program is vital to future war-fighting needs," *Army Times* (15 February 1999), 21. Already the advance in information-age digital technology has reduced the size of the Cold War "Army of Excellence' (AOE) division force structure by 22 percent. See Sean D. Naylor, "Tanks, Bradleys in Germany to be cut: Army accelerates conversion to new Division XXI design," *Army Times* (21 September 1998), 4; Matthew Cox, "Land Warrior: Two-year delay expected for next generation system," *Army Times* (15 March 1998), 8; and Jane McHugh, "The Future: Have we been there before?," *Army Times* (11 May 1998), 12-14. Indicative of the low technological priority reserve combat units receive can be seen in George I. Seffers, "Dragon safety de-

bated: Guard at odds with Active Army," *Army Times* (10 November 1997), 18.

14. Sean D. Naylor, "Strike Force assignments on hold pending review," *Army Times* (20 September 1999), 8.

15. Brian R. Calvert, "A Closer Look at Enhanced Brigades: Lessons Learned from the 116th's Rotation at NTC," *National Guard* (September 1998), 26-30.

16. Perry, et al., *Issues Raised During the Army After Next Spring Wargame*, 28 and 35-6.

17. For a brief, but worrisome critique on USAR PSYOPS effectiveness see Steven Collins, "Army PSYOP in Bosnia: Capabilities and Constraints," *Parameters* (Summer 1999), 59. For a discussion on Civil Affairs from the perspective of the reserve force see Jeffery A. Jacobs, "Civil Affairs in Peace Operations," *Military Review* (July-August 1998), 11-18. For a general discussion on assigning AAN-era reserves with "front edge" missions see David T. Fautua, "How the Guard & Reserve Will Fight in 2025," *Parameters* (Spring 1999), 127-49.

18. The point may have been overlooked, too, by the legion of astute students of the ongoing RMA. Interestingly, the most profound changes in warfare, according to one these students, Richard O. Handley, would occur if the United States successfully challenged one of its own core competencies including those of the USAR and ARNG. See Richard O. Handley, *Past Revolutions, Future Transformations*, 82.

19. This star-studded independent study group has undertaken a three-phased study of the future security environment. The *Phase I* report noted above describes the world emerging in the next 25 years. The second report, in April 2000, designs a national security strategy appropriate to that world. The third report sets out to propose necessary changes to the national security structure to implement that strategy effectively. See Gary Hart, Warren Rudman, et al., *New World Coming: American Security in the 21st Century* at www.nssg.gov.

20. For the political and military discussion on enlargement and engagement, particularly on the "shape, prepare and respond" strategy, see *A National Security Strategy for a New Century* (Washington, DC: The White House, October 1998), 1-3; Hans Binnendijk and David C. Gompert, et al., *1998 Strategic Assessment: Engaging Power for Peace*, (Washington, DC: Institute for National Strategic Studies, National Defense University, 1998), 19-36; and Abrams, *Knowledge & Speed*, 1998, 3-13. For a full discussion on the Army's role in the national military strategy see Louis Caldera and Dennis J. Reimer, *The Statement on the Posture of the United States Army Fiscal Year 2000*, presented to the committees and subcommittees of the United States Senate and House of Representatives, First Session, 106th Congress (Washington, DC: Office of the Secretary of the Army, February 1999), 5-14.

21. *Enlargement and Engagement: A National Strategy for a New Century* (The White House, 1994 and 1995). Interestingly, the twofold strategy maintains that because democratic states purportedly do not make war on each other, international amity will result when the family of democratic states are enlarged thus allowing participants to pursue their own economic self-interests peacefully by engaging in an open market system. For a thorough analysis on this important and controversial notion that democracies do not war on each other, see Spencer R. Weart, *Never at War, Why Democracies Will Not Fight One Another* (New Haven, CT: Yale University Press, 1998), Chapter 1; and R.J. Rummel, *Power Kills: Democracy as a Method of Non-Violence* (New Brunswick, NJ: Transaction Publishers, 1997).

22. The ARNG's Partnership for Peace and State Partnership Program and USAR's participation in the US military's Joint Contact Team program are prime examples of the "soft power" of shaping operations. See John R. Groves, Jr., "PfP and the State Partnership Program: Fostering Engagement and Progress," *Parameters* (Spring 1999), 43-53; and Gil High, ed., "Lithuanians Visit Reserves," *Soldiers* (October 1998), 23.

23. Matthew Cox, "Keeping the peace is no easy task: US soldiers try to gain control in Kosovo," *Army Times* (5 July 1999), 12; and Dane L. Rota, "Combat Decision making in Operations Other Than War," *Military Review* (March-April 1996), 24-8. As early as 1995, US Army Lieutenant Colonel Daniel Bolger forecasted the dangers of "peace operations," in *Savage Peace: Americans at War in the 1990s* (Navato, CA: Presidio Press, 1995). Though the focus of the book is decidedly directed on active forces, most of the arguments generally apply to the reserve forces.

24. Wendy R. Cook, "LAVA Brigade Navigates JRTC: Hawaii Soldiers Confront Mock Enemy in Bayou," *National Guard* (September 1999), 65-8; and Danny N. Blanton, Mississippi-led Task Force Battle, Tough Foe at Training Center," *National Guard* (September 1999), 61-3.

25. William Matthews, "Deployments don't degrade troops' peacekeeping skills: Many Bosnia units performed better, GOA says," *Army Times* (27 September 1999), 23; and Frederick W. Kagan and David T. Fautua, "Could We Fight A War If We Had To?" *Commentary* (May 1997), 25-9.

26. See for instance Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (NY: Free Press, 1971), 418-430; Samuel P. Huntington, *The Soldier and the State: The Theory of Civil-Military Relations* (MA: Harvard University Press, 1957), 86, 350-4; and Charles C. Moskos, "UN Peacekeepers: The Constabulary Ethic and Military Professionalism," *Armed Forces & Society* (1975), 487-501.

27. David R. Segal, Brian J. Reed, and David E. Rohall, "Constabulary Attitudes of National Guard and Regular Soldiers in the US Army," *Armed Forces & Society* (Summer 1998), 540-6.

28. Ibid., 542. Neither group completely embraced peacekeeping operations as an acceptable mission, especially for infantrymen. According to the research, though, reservists were less negative in their attitudes towards peacekeeping than were regulars. The latest argument for enlarging the roles and missions of the Reserve Components, though with decidedly flawed reasoning, is Gary Hart, *The Minuteman* and Stephen Duncan, *Citizen Warriors*. For a broad analysis of peacetime US engagement in the post-Cold War community see John P. Lovell and David E. Albright, ed., *To Sheath the Sword: Civil-Military Relations in the Quest for Democracy* (Westport, CT: Greenwood Press, 1997).

29. See Christopher Lawson, "Shinseki: 'We have an end-strength issue'," *Army Times* (12 July 1999), 8; Matthews, "Deployments don't degrade troops' peacekeeping skills," *Army Times*, 23; and Ken Silverstein, "Buck Rogers Rides Again: A Revolution in high-tech systems promises big profits for the US risk-free war," *The Nation* (October 1999), 23.

30. While the literature on the skills-versus-technology argument continue to grow, two the of the most prescient essays remain, Michael Duncan Wyly, "Combat in the 21st Century: The quality of troops will matter more than the complexity of weapons," *US News & World Report* (16 March 1998), 80-82; and Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells Us about the Future of Conflict," *International Security* (Fall 1996), 139-79. For an explanation on the moral complications of advanced technology in peacekeeping operations see Nick Lewer and Steven Schofield, *Non-Lethal Weapons: A Fatal Attraction?: Military Strategies and Technologies for the 21st Century* (Boston, MA: St. Martins Press, 1997).

31. The most persuasive force design argument with respect to preclusion forces remains Douglas A. Macgregor's, *Breaking the Phalanx: A New Design for Landpower in the 21st Century* (Westport, CT: Praeger, 1997).

32. Major General William Navas, *Army National Guard Fiscal Year 1999 Posture Statement* (Arlington, VA: Army National Guard, Office of the Policy and Communications, 1998), 7-8; and Bernard F. Veronee, Jr., "Army National Guard Division Redesign," *Army Logistics* (July-August 1999), 18-19.

33. In part because of the Task Force *Hawk* 'wake-up' call in Kosovo, Army Chief of Staff General Eric Shinseki put the (heavy) STRIKE FORCE program on hold in favor of plans to create 'lighter' medium-heavy divisions that are more deployable; Sean D. Naylor, "Task force considers developing a medium-weight force," *Army Times*, 4 October 1999, 8. A helpful analysis on the subject is in John Gordon IV and Peter A. Wilson, *The Case for Army XXI "Medium Weight" Aero-Motorized Divisions: A Pathway to the Army of 2020* (Carlisle Barracks, PA: US Army War College, Strategic Studies Institute, May 27, 1998): 1-24.

34. Bob Haskell, "Guard WMD Quick-Response Teams Complete Final Dress Rehearsal, But Their Future Numbers, Role are Uncertain," *National Guard* (September 1999), 73-5; Roger C. Schultz, "Army National Guard: Continuing the Transformation," in Mary B. French, ed., *Army Green Book, 1999-2000: The Magazine of the Association of the United States Army* (October 1999), 113. See also Charles T. Eppright, "The US as a 'Hot Zone': The Necessity for Medical Defense," *Armed Forces & Society* (Fall 1998), 137-45.

35. Fautua, "How the Guard Will Fight in 2025," *Parameters*, 133-4, 138.

36. Rick Maze, "Key high-ranking reservists may get boost to 3 stars," *Army Times* (6 September 1999), 20.

37. MG Thomas J. Plewes, "The Indispensable Army Reserve: One Part of a Synchronized Force," in Mary Blake French, ed., *Army: 1999-2000 Green Book* (Arlington, VA: Association of the US Army, 1999), 118-120; and Ray Whitehead, ed., "Situation Report," *Soldiers* (January 1999), 14-15.

38. A typical case would be the 326th AG (Postal), which falls under the 472nd Chemical Battalion, all of which come under the 88th Regional Support Group (vice Regional Support Command). There are also cases where both the company and battalion are functionally aligned, but then will come under the command of a brigade with a different functional branch. An example would be that of the 316th Engineer Detachment (Prime Power), which is under the 458th Engineer Battalion, all falling under the leadership of the 464th Chemical Brigade. See David T. Fautua, "The Culture of Readiness in the USAR: The CAAP, the Culture, and the Company Commander," *Executive Strategy Papers*, USAR Readiness Command, 1 July 1999; David T. Fautua, "The Readiness Command in the Readiness World," *Executive Strategy Papers*, USAR Readiness Command, 16 June 1999; and David T. Fautua "First Opportunity of the New Year: The Readiness Workshop," *USAR Readiness Command Newsletter* (January 1998), 2-3.

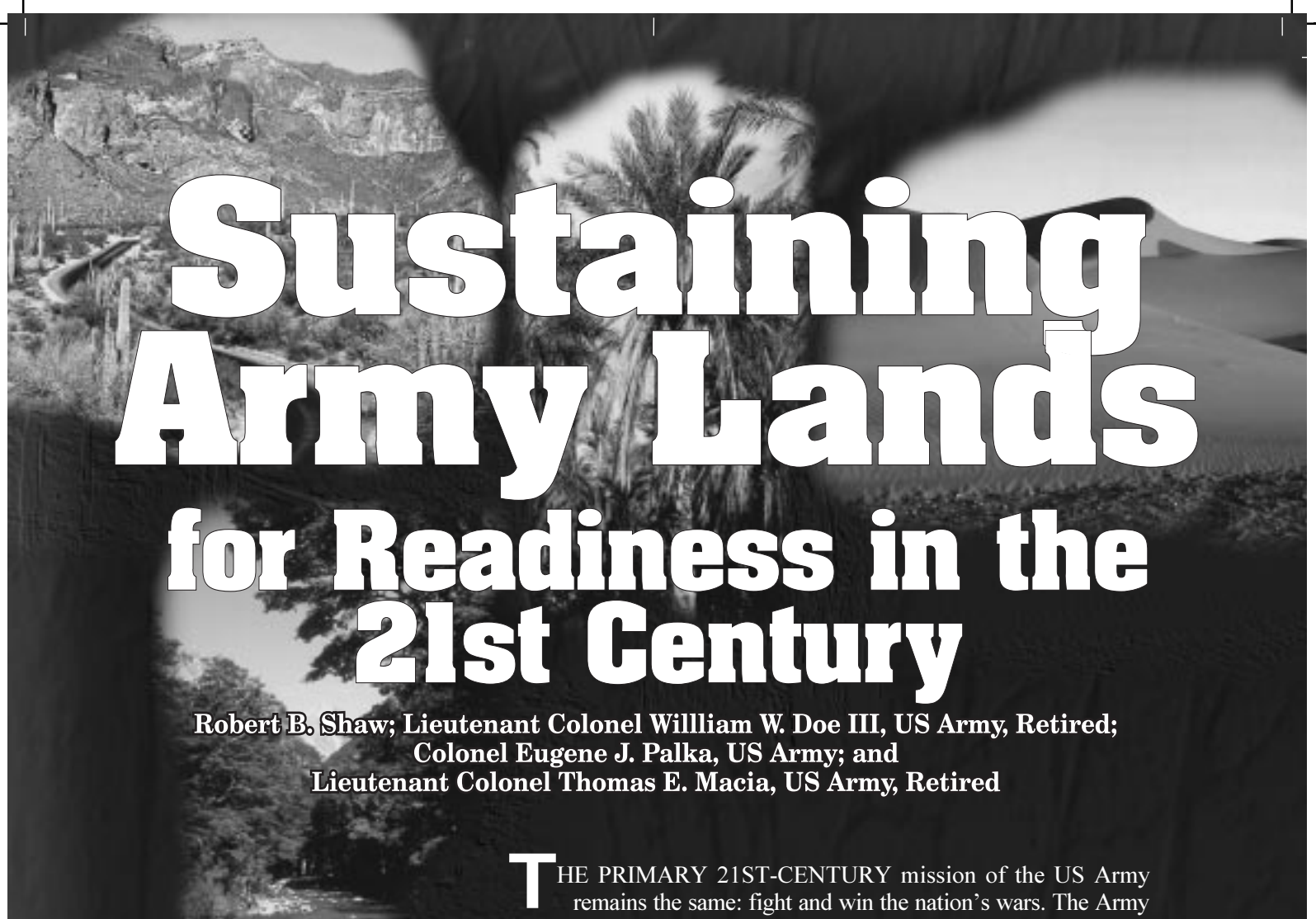
39. The interdependent strategy that guides all CAAT operations is the "Command Assistance and Assessment Program" (CAAP). Each CAAT is led by a lieutenant colonel and is staffed with two majors, a senior warrant (4), master sergeant and two sergeants first class. All are active reserve soldiers with the collective experience for each team averaging over 150 years. See David T. Fautua, "If the Readiness Command Ceased to Exist, What Difference Would It Make?" *USAR Readiness Command Newsletter* (November 1997), 3-4; David T. Fautua, "How Do We Create Synergy: The 'QHR'," *USAR Readiness Command Newsletter* (December 1997), 2-3; and David T. Fautua, "Partners in Readiness, CAAP XXI: A Readiness Business Practice for the USAR in the 21st Century," *White Paper, USAR Readiness Command*, 8 April 1999. So successful is the CAAP, that the Readiness Command has recently been asked by the chief of the Army Reserve to expand its operations to non-FSP units. See David T. Fautua, "Extending the CAAP to the Non-FSP," *Executive Strategy Papers, USAR Readiness Command*, 19 September 1999.

40. For instance, the Readiness Command routinely schedules leadership seminars and professional development classes like those of Career Training Concepts, Inc. See Jim Shafe, "Soldier Focused Leadership," *TEAM Executive* (Norcross, GA: Career Training Concepts, Inc., 1999); David T. Fautua, "A Constitution of Trust: The CAAP Checklist," *USAR Readiness Command Newsletter* (February 1998), 3-4.

41. As a testament to the Readiness Command's climb in importance, its 2-star commander position was upgraded from an Individual Mobilization Augmentee (IMA) status, a semipermanent standing, to a Troop Program Unit (TPU) status, a more permanent drilling reservist rank.

42. An instructive book on the unintended consequences of "drawing down," which this author appropriates in the same vein as "stretching out" is in David McCormick, *The Downsized Warrior: America's Army in Transition* (New York: New York University Press, 1998).

Lieutenant Colonel David T. Fautua, US Army, Retired, most recently served as the chief of strategy and concepts at the US Army Reserve Readiness Command at Fort Jackson, South Carolina. He participated in the Army After Next futures project in 1998 and was the senior USAR representative to the National Operation Support Team and Homeland Defense cell of the Army After Next wargames in 1999. He received a B.A. from the University of Notre Dame, an M.S.B.A. from Boston University and is currently a Ph.D. candidate at the University of North Carolina at Chapel Hill. He has served in a variety of command and staff positions in the Continental United States and Europe. He has written articles and studies on Army strategic policy and national security issues in Commentary *and* Parameters*. He was awarded the Society for Military History's Moncado Prize in 1998 for his* Journal of Military History *article, "The 'Long Pull' Army."*



Sustaining Army Lands for Readiness in the 21st Century

Robert B. Shaw; Lieutenant Colonel Willliam W. Doe III, US Army, Retired; Colonel Eugene J. Palka, US Army; and Lieutenant Colonel Thomas E. Macia, US Army, Retired

Just as conceptual transformation of the Army is moot without deployable units, so technological transformation is compromised if units arrive without proper training. A panel with distinguished military and academic credentials lays out potential international flashpoints and lists their analogs among Army training areas. When no environmentally comparable site exists in the United States, the Army lacks a training resource as fundamental as time, equipment, soldiers or money.

THE PRIMARY 21ST-CENTURY mission of the US Army remains the same: fight and win the nation's wars. The Army must therefore be capable of prompt and sustained land combat in all types of terrain and operating environments, across the entire spectrum of conflict.[1]

Intensive and realistic live field training and testing, under conditions that replicate the variety of landscapes and potential threats, are fundamental to Army warfighting readiness. Technological advances in equipment and weapons, and corresponding changes in doctrine and tactics, have dramatically increased the Army's requirements for maneuver space, ranges and munitions impact areas. Concepts for Army transformation have projected a two- to threefold increase in battlespace requirements.[2] Moreover, proliferating regional and world threats have enlarged the number and geographical extent of potential Army deployments and operations. During 1999 the Army had a presence in 122 countries.

As today's Army rethinks its force structure and responds to a wide range of missions, the need for suitable land to support training and testing remains imperative. The emerging interim brigade combat team (IBCT) reflects a doctrine of tactical maneuver that will require expanded space for training. Nevertheless, the Army's continued requirement for land and the frequent impacts associated with its use invite scrutiny and competition from a variety of external sources, including environmental interest groups, recreationalists, developers, landowners and regulators. If the Army expects its land inventory to underpin its warfighting preparedness, it must demonstrate effective land

stewardship and establish a clear link between its land requirements, doctrine and readiness.[3]

Today, the Army is the largest land manager within the Department of Defense (DOD), responsible for approximately 12 million acres of federal land—almost half of the total DOD land inventory. Army installations are geographically distributed throughout the Continental United States, Hawaii and Alaska, representing a variety of landscapes and environmental conditions found throughout the world. Although the Army uses land and training areas overseas, Army lands within the 50 United States represent the major land assets for training and testing. From a readiness perspective, these lands and their associated physical attributes (such as terrain, vegetation and climate), can be viewed as operational analogs for areas where the Army may deploy to fight a major theater war or participate in a military operation other than war (MOOTW).

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Battle Settings and Operational Analogs

Military history is replete with examples of how terrain, climate, weather, soil and vegetation have shaped the outcome of major campaigns and battles.[4] The ancient Chinese warrior-philosopher, Sun Tzu, cautioned military leaders about the importance of knowing the terrain: "The terrain is to be assessed in terms of distance, difficulty or ease of travel, dimension and safety . . . the contour of the land is an aid to an army . . . those who do battle knowing these will win, those who do battle without knowing these will lose."[5]

In recent Army campaigns, notably Bosnia and Kosovo, unfamiliar terrain and unexpected environmental conditions challenged the Army's ability to perform critical missions, such as crossing major rivers during a flood and flying helicopters at night over precipitous mountainous terrain. When US Army forces stationed in Germany deployed to the Balkans in 1995 during the initial phase of Operation *Joint Endeavor,* seasonal snowmelt and flooding of the Sava River impeded military bridging operations and delayed the arrival of troops to the operational area in Bosnia. In 1999 Task Force *Hawk* deployed Apache helicopters from Germany and the United States to staging areas near Kosovo. Observers questioned whether the pilots' training conditions had prepared them to fly missions in the mountainous Balkan terrain.

These few examples, along with lessons learned in Kuwait, Somalia, Haiti and other operational deployments in the 1990s, illustrate the importance of realistic situational and geographical training. The documented successes of Army maneuver forces during Operation *Desert Storm*, have been attributed, in large part, to preconflict training at the National Training Center (NTC) and other combat training centers (CTCs).

The deserts of Southwest Asia differed distinctly from the environment in the southeastern United States and central Germany, from where major Army forces deployed in 1990.[6] However, because the NTC is in California's Mojave Desert, a landscape and environment much like that of Saudi Arabia and Iraq, training there was ideal. General Frederick Franks, VII Corps Commander during the Gulf War, had trained with the 3rd Armored Cavalry Regiment at Fort Bliss, Texas, and was familiar with desert landscapes and navigating forces in such

terrain.[7] Without the experiences of many Army officers and soldiers at the NTC and other US desert training areas, the transition to a desert operating environment may have required longer periods to adapt and train in theater.

Despite the rapid advancements in simulation-based training (virtual and constructive environments), the loss of money and land for realistic training remains a critical concern of many warfighters. Sustaining the Army's diverse land inventory throughout the United States is paramount to allaying these concerns. The Army must argue convincingly that its land base sustains readiness for future contingencies and missions across the operational spectrum.

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The Army's Current Land Inventory

Army Active and Reserve Components currently manage more than 100 major Army installations, approximately one-fourth of the military installations in the United States. Over 50 of these contain troop concentrations and land sufficient to support significant training and testing activities. Notable concentrations of major active Army installations follow:

Southeast. Fort Benning, Fort Gordon and Fort Stewart, Georgia; Fort Bragg, North Carolina; Fort Jackson, South Carolina; Fort Polk, Louisiana; and Fort Rucker, Alabama.

Southwest. Fort Bliss and Fort Hood, Texas; Fort Huachuca and Yuma Proving Ground, Arizona; Fort Sill, Oklahoma; and White Sands Missile Range, New Mexico.

West. Fort Carson and Pinon Canyon Maneuver Site, Colorado; Fort Irwin, California; Fort Lewis and Yakima Training Center, Washington.

Alaska. Fort Greely, Fort Richardson and Fort Wainwright.

Hawaii. Schofield Barracks and Pohakuloa Training Area.[8]

The sizes of today's major Army installations vary considerably, ranging from approximately 25,000 contiguous acres to as many as two million contiguous acres. The largest Army installations with land available for training and testing are found in the Southwest and West: Fort Bliss and White Sands Missile Range are separate installations joined by a common boundary, comprising approximately 3.2 million acres; and Yuma Proving Ground is a weapon, equipment and vehicle test site, comprising approximately one million acres. The Army's largest installation dedicated to large-scale, mechanized, force-on-force exercises is Fort Irwin, covering approximately 643,000 acres.

Strategic Analysis of Army Lands

In a recent strategic-level inventory of its installation range and training land capacity, the Office of the Deputy Chief of Staff for Operations and Plans, Department of Army, selected 31 major active Army installations for analysis.[9] This analysis, the Installation Training Capacity (ITC) study, was to objectively catalog and assess the Army's existing live training assets to improve input toward future land-use decisions. The 31 installations considered represented approximately 86 percent (10.35 million acres) of the Army-controlled lands within the United States. One important criterion the ITC study considered was the operational-analog value of each installation.

Opposing force armor negotiate rough terrain during a training operation at the NTC.

US Army

To make this analog assessment, the 31 installations were superimposed on a map delineating ecological boundaries as described by Bailey's Ecoregional Classification System. Bailey's scheme is based on the concept of an ecoregion, a contiguous areal extent defined by climate and vegetation, and exhibiting a unique mix of landforms, soil, flora, fauna and ecological succession.[10] Previous studies have used this landscape classification methodology to compare ecological diversity on Army and other federal lands.[11] The classification is well documented, defendable, widely accepted and global in scale. Thus, it enables comparison of Army training and testing lands throughout the United States with regional areas where Army forces may deploy.

The deserts of Southwest Asia differed distinctly from the environment in the southeastern United States and central Germany, from where major Army forces deployed in 1990. However, because the NTC is in California's Mojave Desert . . . training there was ideal. General Franks, VII Corps Commander during the Gulf War, had trained with the 3rd Armored Cavalry Regiment at Fort Bliss and was familiar with desert landscapes and navigating forces in such terrain.

Bailey's Ecological Classification of Key Army Lands

Bailey's Ecological Classification is a fourth-order, hierarchical system. The four levels of classification are domain, division, province and section. The geographic boundaries for domains (groups of ecoregions with related climates) are based upon the broad climatic zones of the earth. The four domains are polar, humid temperate, dry and humid tropical. Divisions are subunits of a domain determined by isolating areas of definite vegetative affinities within the same regional climate. There are fifteen divisions globally: icecap, tundra, subarctic, warm continental, hot continental, marine, prairie, Mediterranean, tropical/subtropical steppe, tropical/subtropical desert, temperate steppe, temperate desert, savanna and rainforest. The province level corresponds to broad vegetation regions, while sections are based on broad land-surface forms. Bailey's classification is only complete to the domain and division level at the global scale; thus, the comparison of

Snowshoed soldiers train for cold-weather operations, an Alaskan specialty, at Fort Greeley.

US Army

The polar domain is restricted to the northern fringes of the North American continent as well as northern Europe and Asia and the polar icecaps. . . . [The domain has two divisions, tundra and subarctic.] None of the 31 major active installations resides within the tundra division, but the three Alaskan installations are found within the subarctic.

Army lands on a global scale was limited to the two higher classification levels.

The polar domain is restricted to the northern fringes of the North American continent as well as northern Europe and Asia and the polar icecaps. It occupies approximately 26 percent of the earth's land area. Two major divisions have been defined: the tundra division (4.5 percent) where the average temperature of the warmest month lies between 10 degrees Celsius (C) and 0 degree C; and the subarctic division (9 percent), where only one month of the year has an average annual temperature above 10 degrees C. The remaining 12.5 percent of the polar domain is in icecaps. None of the 31 major active installations resides within the tundra division, but the three Alaskan installations are found within the subarctic. These installations account for approximately 1,639,000 acres, or 16 percent, of the total Army lands in the survey.

The humid temperate domain occurs at mid-latitudes (30 to 60 degrees north and south latitude) and generally consists of broad-leaved and coniferous forests. This domain covers over 15 percent of the earth's land area and is concentrated in eastern North America, Central Europe, southern China, Uruguay and adjoining parts of Argentina and Brazil, coastal southeastern Australia and New Zealand. The domain is separated into six divisions based on winter and summer temperatures. The warm continental division (1.4 percent) has very cold winters and warm summers. None of the surveyed installations resides within this division. The hot continental division (1.4 percent) has cold winters but hot summers. The installations in this division are: Fort Campbell and Fort Knox, Kentucky; Fort Drum, New York; and Fort

Leonard Wood, Missouri. These installations comprise over 454,000 acres. The subtropical division (3.5 percent) is characterized by mild winters and hot summers. This division is one of the more highly represented with nine installations falling within the subtropics: Aberdeen Proving Ground, Maryland; Fort A.P. Hill, Virginia; Fort Benning, Fort Gordon and Fort Stewart; Fort Bragg; Fort Jackson; Fort Polk; and Fort Rucker. The total area of the installations within this division is about 1,144,000 acres. The marine division (2.4 percent) is a region with mild winters and cool summers. Fort Lewis, Washington, is the only installation in this division and totals about 87,000 acres. The prairie division (1.5 percent) is generally a transitional area between humid and dry climates and could be classified as subhumid. It generally is too dry for tree growth (except in riparian areas) but too wet to be classified as arid. Fort Riley, Kansas, is the only installation located in this division and totals 101,000 acres. The Mediterranean division (1.8 percent) is characterized by dry summers and warm winters. None of the installations studied was classified in this division. In total, the selected Army lands in the humid temperate regime account for about 17 percent of the total Army lands assessed.

Sustaining the Army's diverse land inventory throughout the United States is paramount to allaying these concerns. The Army must argue convincingly that its land base sustains readiness for future contingencies and missions across the operational spectrum.

The dry domain encompasses arid and semiarid areas of the mid-latitudes and covers 32 percent of the earth's land surface. Most of western and southwestern North America, northern Africa, the Middle East, Central Asia and most of interior Australia are located within this division. The dry domain can be segregated into very arid areas (deserts) or semiarid areas (steppes) which separate the arid regions from more humid climates. Four major divisions are recognized within the dry domain based on aridity and temperature. The tropical/subtropical steppe division (11 percent) is a large semiarid area that typically borders tropical deserts to the north and south. Fort Sill is the only installation studied that occurs within this division and totals 94,000 acres. The tropical/subtropical desert division (15 percent) is characterized by extremely arid conditions with high air and soil temperatures. Fort Bliss, Fort Huachuca, Fort Hood, Fort Irwin, White Sands Missile Range and Yuma Proving Ground, are in this division. Together, these installations occupy nearly five million acres. The temperate steppe division (2 percent) has a semiarid continental climate with warm summers and cold winters. Fort Carson and Pinon Canyon Maneuver Site cover a combined 373,000 acres and are the only installations in this division. The temperate desert division (4 percent) is arid with hot summers and cold winters. Dugway Proving Ground, Utah, and Yakima Training Center cover about 1,120,000 acres, and are in this division. In all, the dry domain lands in the Army active installation inventory compose about 64 percent of the total.

The humid tropical domain covers about 27 percent of the earth's land surface area and is characterized by a hot and humid climate. Every month of the year has an average temperature above 18 degrees C and there is no winter season. This area is equatorial and lies primarily between the Tropic of Cancer and the Tropic of Capricorn. The savanna division (17 percent) has a distinct wet and dry season that supports open tall grasslands with drought-tolerant trees and shrubs. No US installations represent this division. The rainforest division (10

Although the Pohakuloa Training Area and Schofield Barracks in Hawaii are classified in the rain forest division, neither is truly indicative of a multilayered, humid, tropical rain forest.

USCINCPAC

The areas of Central Africa and South America, Central America, the Caribbean, Southeast Asia and Indonesia are not well correlated with any US Army training and testing land resource. The recent closing of the US Army Jungle Warfare School in Panama—45,000 acres of relatively undisturbed tropical rainforest—exacerbates the critical lack of training and testing areas within the rainforest division.

percent) has a wet equatorial climate with no distinct dry season and occurs between the equator and 10 degrees latitude. Pohakuloa Training Area and Schofield Barracks are included within this division and cover about 165,000 acres.[12] Overall, less than 2 percent of the Army training lands within the 31 installations are located within the humid tropical domain.

The 31 major active installations in this analysis represent approximately 60 percent of the earth's land surface area by ecoregion. The humid temperate and dry domains are extremely well represented by the lands within the US Army's control. Conversely, nearly 40 percent of the earth's land surface area is not represented by the installations studied. Notably, a large portion of the polar domain and most of the humid tropical domain are underrepresented. The polar icecaps (9.6 percent of the globe) are considered insignificant because the probability of a conflict in this region is relatively small.

However, those areas of the humid tropical domain are of great importance. The savanna division (17 percent of the global land surface) is not represented at all by the 31 installations. This division includes large areas in central Africa, central South America, the Indian Peninsula and northern Australia. Among Army training lands, the rain forest division is also underrepresented. While the two Hawaii installations are classified in the rain forest division, neither is truly indicative of a multilayered humid tropical rain forest. Schofield Barracks does have some small areas that receive significant amounts of precipitation, but the area does not have high enough temperatures to be classified as a tropical rain forest.

Thus, the areas of Central Africa and South America, Central America, the Caribbean, Southeast Asia and Indonesia are not well

correlated with any US Army training and testing land resource. The recent closing of the US Army Jungle Warfare School in Panama—45,000 acres of relatively undisturbed tropical rainforest—exacerbates the critical lack of training and testing areas within the rainforest division. The Mediterranean division (2 percent of the globe's terrestrial surface) also is not represented. Several military installations located in the western United States exhibit a Mediterranean climate but were not a part of the analysis—Camp Pendelton, California is a US Marine Corps installation and Fort Hunter-Liggitt, California, is a US Army Reserve installation.

Numerous Army installations reside within the temperate climates and are therefore geographically similar to major conflict areas such as Russia, Kazakhstan, Georgia, Turkey, Afghanistan, China and Korea. Areas of warm and cold deserts—such as Iraq, Iran, Sudan, Egypt and Algeria—where conflicts are occurring, are also well represented by the Army installations studied.

Distribution of Areas of Conflict

Since the mid-1980s several regional conflicts have involved the Army. Figure 1 illustrates the geographical extent and diversity of the Army's recent operating environment and identifies analogs among installations.

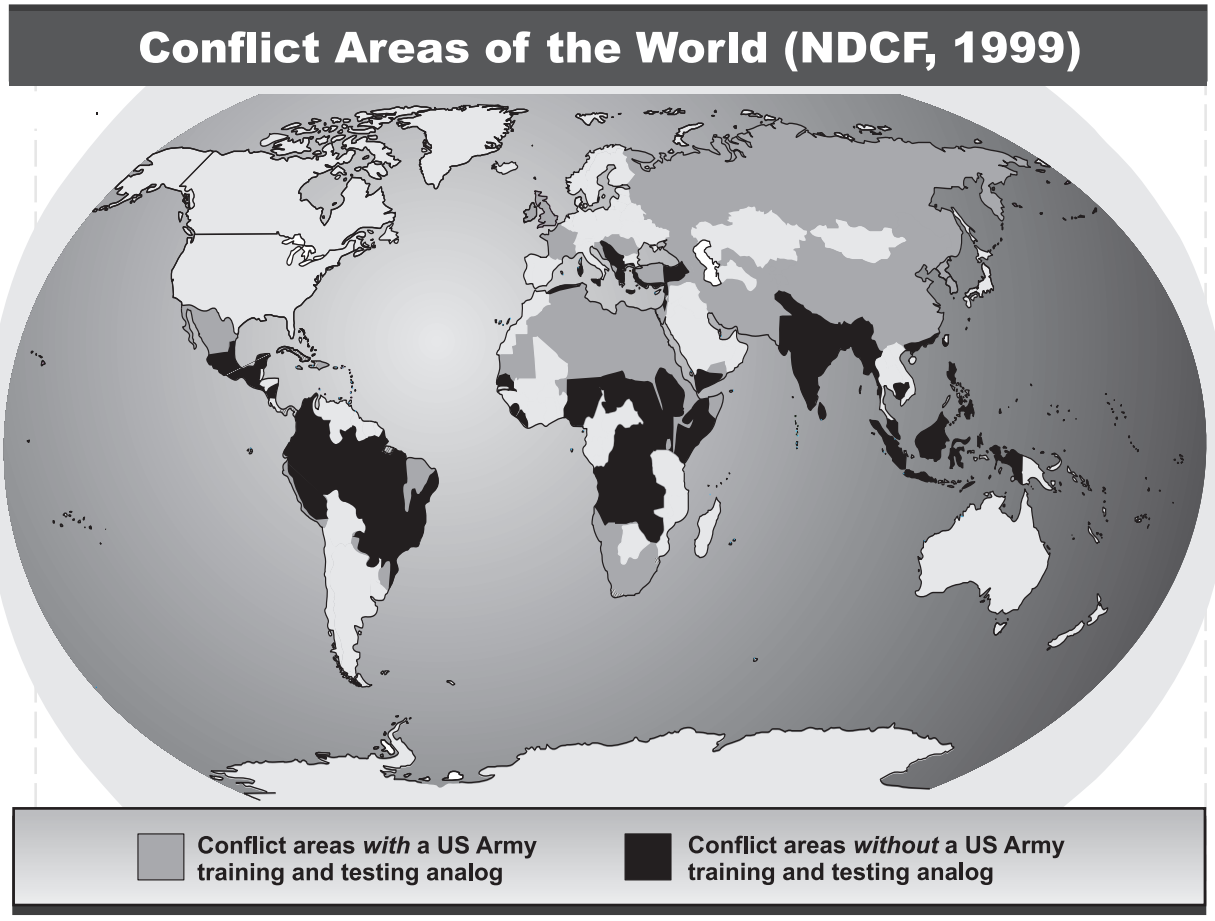
The Army's land inventory was adequate to prepare for conflict in temperate and dry areas, particularly those which support a desert- or continental-type climate. Conversely, the land inventory is inadequate to train personnel and test equipment in areas of conflict which are represented by the savanna, rain forest and Mediterranean ecoregions.

In a recent report, the National Defense Council Foundation identified existing and new major conflicts areas throughout the world. The report identifies 193 nations embroiled in conflict, nearly twice the Cold War level.[13] Comparing these conflict areas to the current Army land inventory yields obvious conclusions. Numerous Army installations reside within the temperate climates and are therefore geographically similar to major conflict areas such as Russia, Kazakhstan, Georgia, Turkey, Afghanistan, China and Korea. Areas of warm and cold deserts—such as Iraq, Iran, Sudan, Egypt and Algeria—where conflicts are occurring, are also well represented by the Army installations studied.

However, this comparison also reveals a significant lack of adequate training land to represent conflict areas in Mediterranean and tropical environments. As shown in Figure 1, the Mediterranean region is predicted to remain unstable with potential conflicts in Morocco, the Balkans, Lebanon and Israel. Similarly, the environments of conflict areas in South America (Columbia and Peru), Africa (Sierra Leone, Liberia, Nigeria, Kenya, Rwanda, Burundi, Angola and the Democratic

Conflict Area	Ecoregion Type	Army Land Analog
Iraq, Kuwait, Saudi Arabia	tropical/subtropical desert	Irwin, Bliss, Yuma, White Sands, Huachuca
Iran, Somalia	tropical/subtropical steppe	Hood, Sill
Korea	hot continental	Campbell, Knox, Drum, Leonard Wood
Haiti	savanna, rain forest	None
Panama, Nicaragua	savanna, rain forest	None
Bosnia, Kosovo	Mediterranean	None
Rwanda	savanna, rain forest	None

Figure 1.



The environments of conflict areas in South America, Africa, southernAsia, Southeast Asia and Macronesia, are underrepresented in the Army land inventory. From this assessment, it is clear that the Army faces tremendous challenges to prepare for operations in a variety of potential conflict areas, with vastly different landscapes.

Republic of Congo), southern Asia (India, Sri Lanka and Bangladesh), Southeast Asia (Cambodia) and Macronesia (Philippines, Indonesia and Papua New Guinea), are underrepresented in the Army land inventory. From this assessment, it is clear that the Army faces tremendous challenges to prepare for operations in a variety of potential conflict areas, with vastly different landscapes.

Nearly 50 years ago, *Military Review* published a two-part article that emphasized the need for professional soldiers to understand fundamental geographical regions to calculate their impacts on operations and logistics during global war.[14] The author, Harold Forde, recognized that each environment presented different considerations for military operations, and categorized the earth's land surface into eight distinct groups: dry lands; tropical forests; Mediterranean scrub forests; mid-latitude mixed forests; grasslands; Boreal forest lands; polar lands; and mountain lands.

Forde's message was clearly based on the US Army's World War II deployments to all of the regions he identified. His insights may be even more significant in the 21st century. While current and future threats do not suggest fighting two major theater wars simultaneously, the current military strategy demands preparing for the worst case. Moreover, since the end of the Cold War, the US military has been increasingly involved in regional conflicts and MOOTW. The greater tendency to deploy soldiers and units requires that they be exceptionally trained and

equipped for a wide range of short-notice missions throughout the world. While these deployments are smaller than those during World War II, the diversity of operational landscapes is much broader.

US Army history reveals a synergistic relationship between training to fight in varied operating environments and success once deployed to particular regions. Despite their deficiencies, Army training and testing lands throughout the 50 states are a precious resource fundamental to mission accomplishment. These lands represent analogs to potential areas of conflict where the Army may be deployed. The Army must therefore retain and sustain these essential land resources so that soldiers can train as they will fight. ***MR***

Since the end of the Cold War, the US military has been increasingly involved in regional conflicts and MOOTW. The greater tendency to deploy soldiers and units requires that they be exceptionally trained and equipped for a wide range of short-notice missions throughout the world.

NOTES

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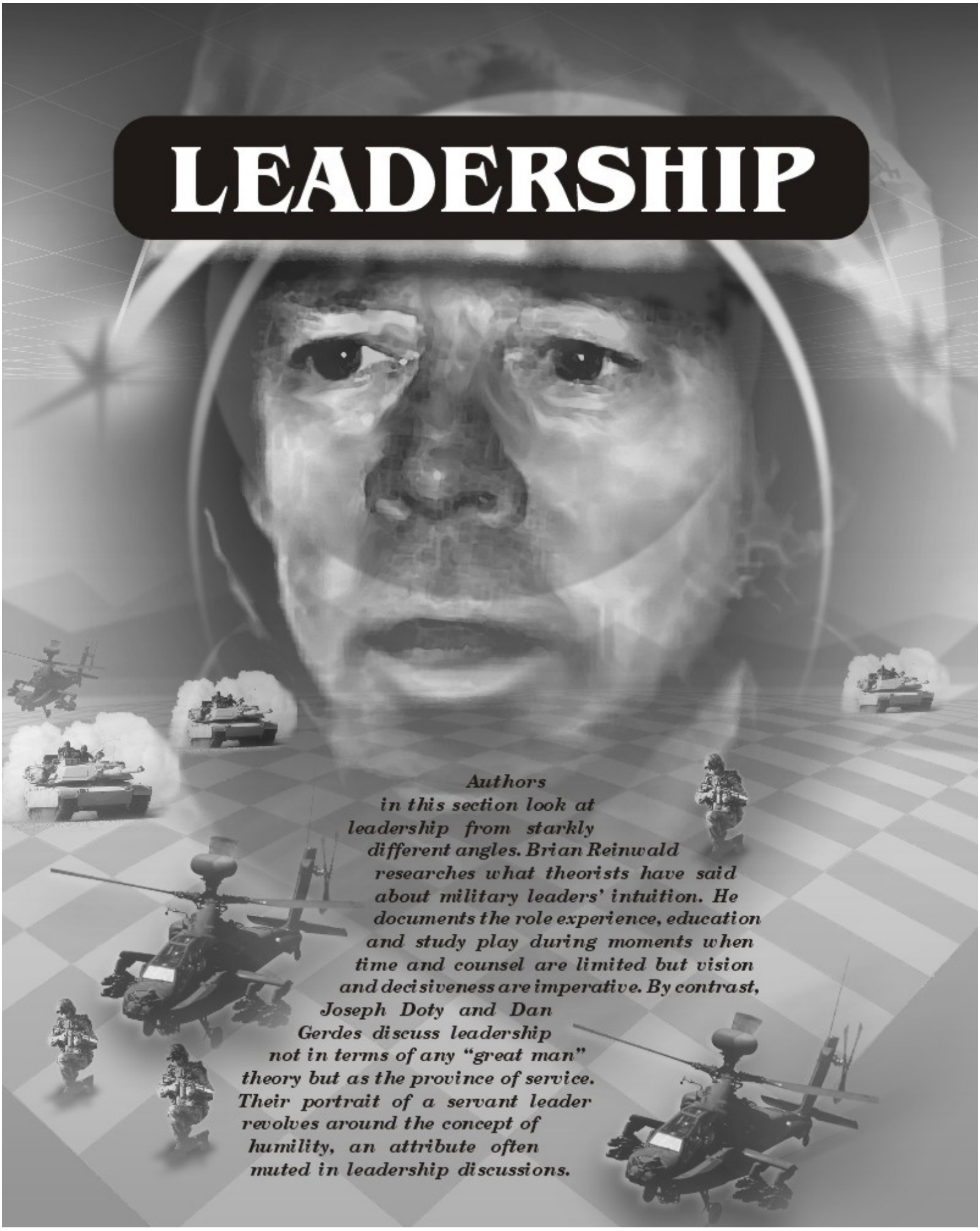
LEADERSHIP



Authors in this section look at leadership from starkly different angles. Brian Reinwald researches what theorists have said about military leaders' intuition. He documents the role experience, education and study play during moments when time and counsel are limited but vision and decisiveness are imperative. By contrast, Joseph Doty and Dan Gerdes discuss leadership not in terms of any "great man" theory but as the province of service. Their portrait of a servant leader revolves around the concept of humility, an attribute often muted in leadership discussions.

Tactical Intuition

Major Brian R. Reinwald, US Army

Man is the fundamental instrument in war; other instruments may change, but he remains relatively constant. . . . In spite of the advances in technology, the worth of the individual man is still decisive. The open order of combat accentuates his importance.[1]

—US Army Field Manual 100-5

MANY CURRENT DISCUSSIONS about the Army's future lack a humanistic and historically based prediction of future warfare that addresses the ground tactical commander's role. This critical unknown requires intense study and accurate answers. Too much current speculation implies that technology, information superiority and automated command and control processes are the sole keys to battlefield supremacy in the 21st century. It is possible that future warfare will be "a gigantic artillery duel fought with exceptionally sophisticated munitions."[2] Warfare of this nature should completely change combat leadership, but reasoned analysis suggests an entirely different conclusion.[3] These positions discount the historically vital role of the ground tactical commander, his abilities and the various moral elements indigenous to warfare. Quite simply, technological superiority alone has never won a war.[4]

Theories on war's future must incorporate a realistic human role. As war's instigators and promulgators, human beings must be considered in its final equation. In criticizing "military men of all countries," Ardant du Picq's comments in the 19th century are appropriate today: "They fail to consider as a factor in the problem, man confronted by danger. Facts are incredibly different from all theories. Perhaps in this time of military reorganization it would not be out of place to make a study of man in battle and of battle itself."[5] Developing theories of future war without considering the human participant's impact or role is a shallow and inaccurate endeavor.[6]

What about the future role and function of combat leaders? Will technology replace the combat leader's role in motivating soldiers to risk their lives for mission accomplishment?[7] Have leader decisions been replaced by trunk circuits and microchips? Absolutely not. One aspect of the human element's role stands out prominently as critical to past, present and future combat operations—the tactical commander's intuition.

Historically, a commander's abilities to visualize the enemy, the battlefield environment and subsequent activities; make correct and timely decisions; mentally clarify the battlefield's uncertainty and forge a coherent whole out of conflicting parts have been fundamental to tactical combat success. The distinctly human skill paramount to each of these tactical competencies is the essence of intuition. Tactical intuition's immediate grasp of a situation and penetrating insight remain vital in today's Army. As historian Michael Handel wrote:

Research illuminates three common traits among the many descriptions of intuition: it is a phenomenon of subconscious thought; it relies heavily on experience-based knowledge that leads to expertise in a given field; and it is a comprehensive, unrestrained thought process.

"Commanders are rarely in control over events on the battlefield. The successful general is not the one who carefully implements his original plans . . . but rather the one who intuitively 'reads' the chaos on the battlefield well enough to take advantage of passing opportunities. . . . Since it is impossible to weigh all of the relevant factors for even the

simplest decisions in war, it is the military leader's intuition (his *coup d'oeil*) that must ultimately guide him in effective decision making."[8]

The importance of a tactical commander's intuition is well established in the annals of war, including periods of profound evolutionary or revolutionary military change.[9] Our own Army's history highlights the absolute importance of the commander's cognitive and intuitive abilities in battle command, including the skills of visualization and situational understanding in uncertain and ambiguous environments.[10]

Intuition enables leaders to overcome some of warfare's uncertainties and to make decisions under horrific, constrained conditions. In nonmilitary endeavors, it is a trivial and unnoticed occurrence—in war it is the lifeblood of command decision and the precursor to victory.

Tactical intuition is critically necessary for combat commanders in the future force. It is the essence of battle command and is neither a mystical trait nor an unattainable faculty. Variously described as *coup d'oeil*, a sixth sense, a vision, a hunch or a gut feeling, intuition enables combat leaders to perform critical command and control functions during intense periods of planning or operations. It affords leaders the capacity to make timely, rational decisions based upon extensive experience, memorized skills and concepts, and subconscious pattern recognition. Researcher and author Tony Bastick writes, "Intuition is a powerful human faculty, perhaps the most universal natural ability we possess."[11] Intuition's technical and mental processes are complex; its development and utilization are not. Regardless of the technological, doctrinal and organizational changes which lie ahead, a commander's intuition maintains its importance to the conduct of war.

Intuition Dynamics

It is by the eyes of the mind, by reasoning over the whole, by a species of inspiration that the general sees, knows and judges.[12]

—Napoleon Bonaparte

Intuition has long been perceived as a mysterious and mystical trait, common only to persons possessing great genius or premonitional skills. Although mentioned by some of the great philosophers and psychologists of the modern era, intuition was the subject of very few studies and investigations prior to 1960. Bastick writes, "There seems to have been a spiritual mystique surrounding this invaluable faculty. To delve too deeply would dispel, it was thought, not only the spiritual mystery but also the power giving the intuition."[13] Although intuition's definitions vary, recent research has been both more aggressive and comprehensive in determining what it is and how it works. Findings now portray intuition as a common mental capacity that can be developed and used in everyday life.

Research illuminates three common traits among the many descriptions of intuition: it is a phenomenon of subconscious thought; it relies heavily on experience-based knowledge that leads to expertise in a given field; and it is a comprehensive, unrestrained thought process.[14]

Specifically, the intuition process involves the active interrelation between psychological and biological functions. The cognitive processes of intuition are modified by various physiological functions, including the voluntary neuromuscular system, hormonal activity, digestions, intro-organic tensions, the autonomic nervous system and internal stimulation of glands.[15] The link between the body and the mind is obviously quite complicated. Author Karl Albrecht calls it "an incredibly complex pattern of electrical-chemical signals flitting rapidly about through this blob of tissue, a biological computer of awesome capability."[16]

The intuitive process begins after information is received through sight, sound or other means and is organized and stored in the brain. As the brain's database of knowledge grows in a given subject area, the information base becomes both larger and more abstract. This facilitates its retrieval and interpretation for use by the right side of the brain.[17] This organization of virtually limitless data enables intuitive thought by skilled thinkers.

Researcher Beryl Benderly notes that this does not mean experts necessarily possess great perceptual ability, but it does mean that they can see "deeply into a problem" through access and utilization of the information contained in the stored database.[18] Napoleon Bonaparte had no formal psychological training or education, yet he perfectly summarized this process in describing his own thought patterns: "Different subjects and different affairs are arranged in my head as in a cupboard," Napoleon wrote. "When I wish to interrupt one train of thought, I shut that drawer and open another. Do

I wish to sleep? I simply close all the drawers and there I am—asleep."[19] The right side of the brain thus enables intuitive thought by providing previously stored choices pertinent to a current situation.

When confronted with a problematic situation, the brain retrieves abstract, organized data from subconscious memory; looks for and determines a rational pattern or similarity between that data and the problematic situation; determines and weighs the collective data's relevance to the given problem or situation as a whole; and then transfers relevant possible solutions into the conscious realm from which the brain can logically decide and act. Remarkably, this is the essence of a gut feeling. Intuition, viewed collectively as a physiological and psychological activity, can best be described as a mental process whereby subconscious knowledge is automatically or summarily retrieved and utilized by the conscious mind, thus producing a range of possibilities available for instant analysis and used to make a decision or derive a logical conclusion based upon a problematic situation or environment.

The correlation between a commander's intuition and tactical combat success is monumental. Quite simply, intuition enables leaders to overcome some of warfare's uncertainties and to make decisions under horrific, constrained conditions. In nonmilitary endeavors, it is a trivial and unnoticed occurrence—in war it is the lifeblood of command decision and the precursor to victory.

The Concept of *Coup d'oeil*

Yes, we need forward thinkers. . . . It is also essential that we do not believe that we possess such enormous wisdom that we can dismiss the past.[20]
—Napoleon Bonaparte

Frederick the Great, Marshal Maurice de Saxe, Ardant du Picq and Napoleon are some of the more prominent names in recent history who wrote about intuition. None did so to the extent of Prussian theorist Carl von Clausewitz. However, all recognized the importance of the human element and to some degree correlated battlefield success with commander's intellect.

Common to most of them is a description of the intuitive thought process referred to as *coup d'oeil*. Clausewitz called this personal trait a commander's "ability to see things simply, to identify the whole business of war completely with himself."[21] In 1938 the US Army Infantry School published a collective faculty effort pertaining exclusively to *coup d'oeil*. The faculty concluded that *coup d'oeil* consisted of two parts: an ability to comprehend a large tactical situation at a glance (including the terrain), and then an ability to decide quickly and act, based upon that understanding.[22]


National Archives
Napoleon Bonaparte

Napoleon had no formal psychological training or education, yet he perfectly summarized this process in describing his own thought patterns: "Different subjects and different affairs are arranged in my head as in a cupboard. When I wish to interrupt one train of thought, I shut that drawer and open another. Do I wish to sleep? I simply close all the drawers and there I am—asleep."

Frederick the Great viewed *coup d'oeil* as a tool—a mental faculty—for visual terrain analysis and enemy situational analysis. Though still important today, terrain in Frederick's day was arguably more critical to a battle's outcome. In his own words, to a commander it was "the foremost oracle that one must consult, after which he can fathom the enemy dispositions by his own knowledge of the rules of war."[23] He continued:

"The *coup d'oeil*, properly speaking, is reduced to two points. The first is to have the ability of judging how many troops a given position can contain, a trick that is acquired only through practice. . . . The other and by far the most superior talent is to know how to distinguish at first sight all the advantages that can be drawn from the terrain. One can acquire and perfect this talent if he is in the least endowed with a fortunate bent for war."[24]

Du Picq believed in the importance of experience-based knowledge and conveyed its connection to battlefield competence by simply stating that "If you really want to learn to do your work, go to the line." He also recognized that an army requires "leaders who have the firmness and decision of command proceeding from habit."

Frederick also described the intuitive thought process in simple but clear terms. His first point identified *coup d'oeil* as an ability acquired through practice, which relates to intuition's reliance on a broad base of knowledge—predominantly experience—from which to bring relationships and whole examples from the subconscious to the conscious realm.

His second point refers to the talent of instantly distinguishing the terrain's advantages. Frederick's perception here encapsulates the intuitive thought process in action: seeing the terrain, ingesting its whole picture, comparing it against the organized database of knowledge extracted from subconscious thought, then consciously interpreting, reasoning and choosing from the produced options.

Frederick also realized that these skills could be developed, primarily through the knowledge gained by experience. "Theoretical knowledge is of no use if it is not supplemented by positive practice. You must train yourself to select terrain and make dispositions; you must reflect on this subject; and then theory, reduced to practice, makes all of these operations skillful and easy."[25]

Another 18th century soldier and writer, de Saxe summarized his thoughts on what is required for success in combat in one sentence: "The important thing is to see the opportunity and to know how to use it."[26] This generalization implies using innate comprehension skills, logical decision making and rational action.

To de Saxe, superb military leaders embodied inquisitive, rigidly determined thought and action: A great general should "possess a talent for sudden and appropriate improvisation. . . . He should be able to penetrate the minds of other men, while remaining impenetrable himself. He should be endowed with the capacity of being prepared for everything, with activity accompanied by judgment, with skill to make a proper decision on all occasions and with exactness of discernment."[27]

And like Clausewitz, de Saxe believed that tactical skill and the ability for skilled intuitive thought were at least partially attributable to birth traits. He asserted that "Unless a man is born with talent for war, he will never be other than a mediocre general . . . talent must be inherent for excellence."[28]

Another Frenchman, du Picq, conveys one clear theoretical message relevant to the study of intuition. He wrote that the dynamics of combat involve two forces—material and moral. He theorized that moral forces, those related to the psyche and motivation of the human soldier, are the most crucial for combat success. "Man is the fundamental instrument in battle," he wrote. "Nothing can wisely be prescribed for an army . . . without exact knowledge of the fundamental instrument, man and his state of mind, his morale, at the instant of combat."[29] Du Picq theorized that soldier's actions and ever-changing mental state—the moral force of an army—are more important to the outcome of a battle than weapons or other factors.

Du Picq focused on the soldiers' mental composition. His work implies the importance of the commander's intuition and decision-making ability during the confusion of battle. "The human heart in the supreme moment of battle" he asserted, "is the basic factor."[30] He believed in the importance of experience-based knowledge and conveyed its connection to battlefield competence by simply stating that "If you really want to learn to do your work, go to the line."[31] He also recognized that an army requires "leaders who have the firmness and decision of command proceeding from habit."[32] Du Picq's message that moral and not physical factors dominate war corroborates the related theories on tactical intuition.

Napoleon believed that leaders were born with an intuitive thought process, an instinct for determining truth and achieving clarity in the midst of uncertainty, which enables them to understand the parts of a situation through an awareness of the

whole. "The general never knows the field of battle on which he may operate," wrote Napoleon. "His understanding is that of inspiration; he has no positive information; data to reach a knowledge of localities are so contingent on events that almost nothing is learned by experience. It is a faculty to understand immediately the relations of the terrain according to the nature of different countries; it is, finally, a gift, called a *coup d'oeil* militaire . . . which great generals have received from nature."[33]

Napoleon's writings and his amazing abilities in war reflect the importance of experience to the intuitive process. To Napoleon, intuition was instant, global understanding of a situation gained through the analysis of previously learned information. While he believed that this was in part genetically based, he also professed that intuitive abilities could be bred through experience, "Commanders in chief are to be guided by their own experience or genius . . . generalship is acquired only by experience and the study of the campaigns of all great captains."[34] Napoleon's recognition of intuition thus showed a parallel understanding to that which is common to today's intuition researchers and writers—it is a learned skill requiring the retrieval of an organized database of knowledge previously gained through experience and other means of education.

Theoretical and historical writings record the prominent notions concerning intuition among some of warfare's preeminent thinkers. Theory, history and a reasoned hypothesis of future war highly suggest that intuitive abilities are important for combat leaders' battlefield success.

Tactical Intuition and the US Army

Victory in war does not depend entirely upon numbers or mere courage; only skill and discipline will insure it.[35]

—Napoleon Bonaparte

Combat success is the US Army's legacy of the many contributing variables and coincidences, and surely among the most prominent, have been the soldiers. Among the numerous intangible human qualities, such as courage, boldness, determination and loyalty, sound decisiveness in the roar of battle can be considered the linchpin for victory.

This critical intangible quality—this masterful skill—is based on combat leaders' sound intuition. Its demonstrated cycle in most successful tactical combat operations is simple: during battle, the environment stimulates intuition, intuition forms the foundations for decision and the decisions change the course and terms of battle.

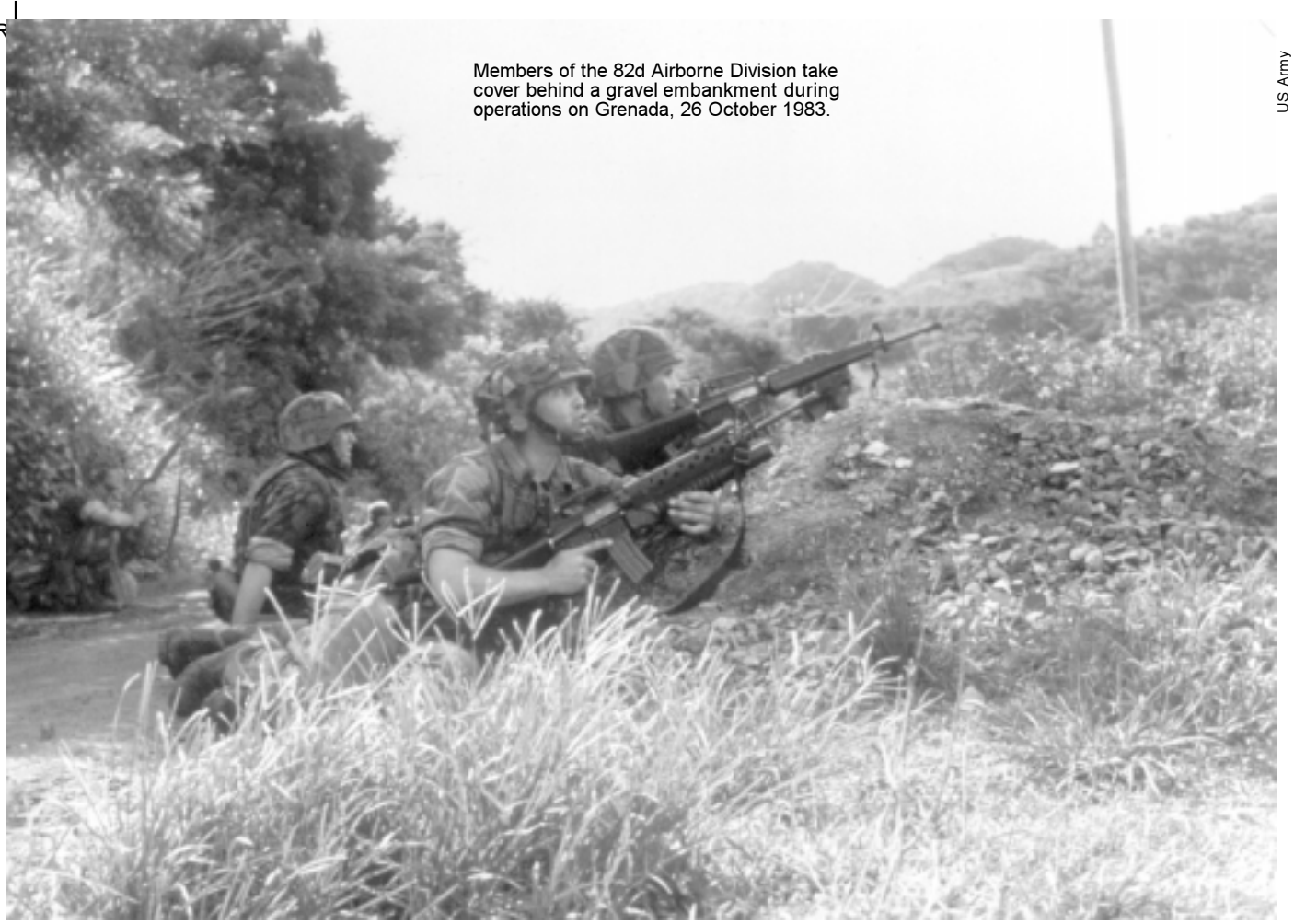
National Archives

Frederick the Great identified* coup d'oeil *as an ability acquired through practice, which relates to intuition's reliance on a broad base of knowledge—predominantly experience— from which to bring relationships and whole examples from the subconscious to the conscious realm. He also refers to the talent of instantly distinguishing the terrain's advantages. Frederick's perception here encapsulates the intuitive thought process in action.

Competent decision makers are therefore key to battlefield success. Current doctrine stresses intuition's importance but its role in future conflict is less emphatically presented. Intuition is a vital necessity for the prosecution of successful command and control functions, and its past prominence and present influence will help to advance its criticality to future combat operations.

Tactical Intuition: The Core of Battle Command

Tactical command of ground forces remains a complicated endeavor.[36] There is some science involved in this process, but command mainly applies human talents through developed faculties—all habitually artistic. The tactical command of forces in the US Army is known today as battle command.



Members of the 82d Airborne Division take cover behind a gravel embankment during operations on Grenada, 26 October 1983.

US Army

Intuition's crucial contribution to combat success is recognized by the Army through the concept of battle command. Although the terms we use to identify its functions may change in future doctrinal generations, its prominence will not. The Army relies on skilled tactical leaders who can quickly observe, think and act during intense combat operations. The Army will continue to assess and develop such leaders, for one "who cannot think clearly and act rationally in the bullet zone is more suited for a monastery than the battlefield."

Intuition plays a vital role in the concept of battle command and serves as the basis of most critical leader skills which battle command encompasses.[37]

The battle command concept was developed by General Frederick Franks Jr. to account for the human dimension of battle. According to Franks, battle command means "seeing what is now, visualizing the future state or what needs to be done to accomplish the mission and then knowing how to get your organization from one state to the other at least cost against a given enemy on a given piece of terrain."[38] The primary components of battle command that depend directly on the commander's intuition are decision making, visualizing, concept formulation and battlefield awareness—"selecting the critical time and place to act, and knowing how and when to make adjustments during the fight."[39]

Sound decision making is the essence of combat command.[40] To be effective and successful, tactical leaders must first realize that a decision has to be made, determine the timeliness required of the decision, quickly and efficiently weigh the relative merits of possible courses of action, and finally decide and act. The rapid process of intuition permits this decision cycle to evolve fluidly. Visualization and concept formulation rely upon intuition, as they are the art of conceptualizing and understanding a future state or condition based upon current tangible and intangible factors, and then developing a plan by which that future state can be achieved.[41] They are the cornerstone of battle command, reliant upon creativity, clear thought, judgment, experience and the intuitive sense to maximize them coherently into conscious thought and action.[42]

The final battle command component, battlefield awareness, relies most heavily upon the intuitive process. It is derived though education and experience and results in a "quick access to a whole bank

US Army

VII Corps commander General Joseph Collins and his aide observe artillery fire, 10 December 1944.

Among the numerous intangible human qualities, such as courage, boldness, determination and loyalty, sound decisiveness in the roar of battle can be considered the linchpin for victory. This critical intangible quality—this masterful skill—is based on combat leaders' sound intuition. Its demonstrated cycle in most successful tactical combat operations is simple: during battle, the environment stimulates intuition, intuition forms the foundations for decision and the decisions change the course and terms of battle.

of experiences and lessons that don't have to be gone through individually or in detail, but [as] a result of a lot of reflection and conviction."[43] This faculty is more than knowledge of physical forces on the battlefield. Rather, identifying patterns and relationships, understanding the critical points in time and space and recognizing opportunities for decisive action are all important aspects of this skill. Lieutenant General (Retired) L.D. Holder highlights the role of intuitive understanding: "Talented tacticians see possibilities that others do not because they understand the workings of the force."[44] This instinctive and expert talent draws its actions or decisions into realization through the intuitive process, firmly grounded in experience.

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Intuition and the Future Force

Intuition's role as a critical component of tactical command is secure as long as war remains a violent clash of wills, full of ambiguity and uncertainty, fought by imperfect soldiers. As technology changes warfare, leaders must change, but their human characteristics and psychogenic functions will remain

substantially the same. "Weapons technology is only the hardware of warfare," wrote David Langford. "of equal importance is the software which governs its use and which takes many forms."[46] The human participant is part of this software.

The world environment is complex and dynamic; thus, estimates of any future conflict's scope and nature are at best speculative. Some predict that future war will be largely urban and characterized by bands of quasi-professional soldiers and thugs.[47] Others keep a less-radical view and foresee future conflict involving adversaries fighting technologically based battles of great destruction, confusion and fear.[48]

Holder notes that the current Army professional schooling method for field grade officers tries to "paint the whole corps lightly with tactical information" but does not develop intuitive commanders with advanced tactical understanding, firmly grounded in the art of war. Competent instructors who understand fighting and maneuver should not be wasted on officers who will never serve in ground combat units in battle.

Future land warfare will be influenced by five trends: the increased lethality and dispersion of weapon systems; increased volume and precision of fires; the integration of advanced technologies; increased mass and effects of munitions; and the improved invisibility and detectability of belligerents.[49] The Army is organizing to meet this probability, but one author team wrote, "the artistic side of war will remain: creativity, intuition, leadership, motivation and decision making under conditions of limited information. These will never lose their importance, for they describe war's essence."[50]

Problems can and will occur during these future operations just as they have throughout the history of our battlefield successes. Units will become disoriented, leaders will be confused and killed, weather will foil plans, equipment will malfunction, and the enemy will not cooperate. Revolutionary changes in technology, doctrine and organization cannot erase such friction in war.

Competent leaders steady the keel in this type of tactical environment. Leadership presence is insufficient; leaders must be tactically smart and rationally calm under fire. They must understand the intricacies of their combat systems and their soldiers' endurance thresholds. They must be flexible in thought and action and capable of solving complex, ambiguous problems with little or insufficient data. Above all, they must lead from the front and command naturally without having to pause or stop to consider what should be done—thereby reflecting true expertise in the profession of arms. This is possible only through the conviction of will and the sharpness of their minds—by intuitive thought and instinctive behavior.[51]

Intuition is neither mystical, magical nor exclusive to a privileged few. It is a developed mental faculty which involves the automatic retrieval and translation of subconsciously stored information into the conscious realm to make decisions and perform actions. Organized databases of knowledge gained through education—experiences, memorization, sensations and relationships—are the building blocks for intuitive thought.

Tactically, intuition enables leaders to make and implement decisions faster than an enemy counterpart and actualizes the difference between "competence and incompetence, victory or defeat."[52] It affords the force as a whole, through the leader's skill, to gain a decisive advantage through increased tempo, sustained initiative and bold action.[53] It provides the window for viewing future activities in light of current operations and thus minimizes some of the uncertainties in war. Intuition provides logical alternatives to complex problems, a sense of order to disorder, and similarities to previously unfamiliar circumstances. It is the essence of what we define as battle command, visualization and situational understanding—it is idealized tactical leadership.

Tactical intuition's importance demands that it be cultivated and improved throughout our force. Not every officer has the capability to be truly proficient in tactical leadership and all of the difficult requirements of battle command, but for the officers that do, intuitive potential can and must be developed and refined.[54] The method is conceptually simple:

- Repetitive troop assignments beginning as a lieutenant, particularly from the field grade ranks on.
- Demanding and realistic collective training in non-virtual-reality environments to encourage original, audacious and creative solutions to tactical problems.
- Substantive, concentrated professional education, founded on military history and theory, tacti-

US Army

At the VII Corps JUMP TAC, General Frederick Franks Jr. explains his plan to destroy remaining Republican Guard units, 27 February 1991.

Battlefield awareness, relies most heavily upon the intuitive process [and] is derived though education and experience. . . . This faculty is more than knowledge of physical forces on the battlefield. Rather, identifying patterns and relationships, understanding the critical points in time and space and recognizing opportunities for decisive action are important aspects of this skill.

cal and operational art and the environment of war.

- Broad personal education that breeds creative thought, focusing on the moral and physical environments of war and other subjects pertaining to the military profession.

Holder notes that the current Army professional schooling method for field grade officers tries to "paint the whole corps lightly with tactical information" but does not develop intuitive commanders with advanced tactical understanding, firmly grounded in the art of war.[55] Competent instructors who understand fighting and maneuver should not be wasted on officers who will never serve in ground combat units in battle. As one author astutely wrote, "Combat leaders will have the same amount of battlefield vision as they have warfighting expertise. Unfortunately, the Army's current leader development program develops 'competent and confident' leaders, not warfighting experts."[56]

Advanced technology is not the final answer in the quest for future wartime success, particularly at the tactical level of war. The human element is often slighted in this search for certain victory, and quite possibly technology may cause paralysis by analysis, as intuitive skills are neglected.[57] This potential tragedy must never be realized.

The Army must affirm its foundation of strength—people.[58] Soldiers—commanders—who in combat rationally, competently and quickly make the proper tactical decisions have always been the hallmark of great successes. Time in combat is precious and unforgiving, and intuition enables commanders to

succeed despite its constraints. As the excitement of improved technologies proliferates and as society at large becomes increasingly indifferent to the profession of arms, the Army must develop and draw on its leadership resources.

The human mind's intuitive process is an irreplaceable determinant of combat success but it must be developed, improved and exercised. The Army's legacy and present charter obligate it to provide courageous and competent officers capable of negating fiction's perils. Technology is merely an ancillary agent. The ultimate weapons are combat leaders who must not be shunned as irrelevant in a high-technology age. This is no light task in today's environment. "The future commander may eventually sit before a console," wrote Robert Doughty, "but he will never be a technician, and his profession will never be a trade."[59]

Regardless of technology, intuition is essential and the Army is obliged to identify and develop military leaders with the experience and insight to see, decide, act and win. ***MR***

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6. Historian Williamson Murray, in "War, Theory, Clausewitz, and Thucydides: The Game May Change but the Rules Remain," *Marine Corps Gazette* (January 1997), 63 and 68.
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Humility as a Leadership Attribute

Lieutenant Colonel Joseph Doty, US Army, and Dan Gerdes

THE VIRTUE OF HUMILITY is often overlooked in leadership discussions. Humility is not brought up when studying some of history's greatest military leaders (such as George S. Patton, Douglas MacArthur, Napoleon Bonaparte and Erwin Rommel). But as the military becomes involved across the spectrum of conflict, this misunderstood leadership trait becomes more important.

Humility, or the quality of genuine modesty and unpretentiousness, is often disregarded when describing traits of good leaders because it seems to suggest a lack of toughness and resolve essential in an effective leader. However, the humble leader lacks arrogance, not aggressiveness. The will to serve others eclipses any drive to promote self. Humility can even carry a certain spiritual tone, as the leader's activities are free of ego and self-aggrandizement—all in the best interest of the success of many versus the prominence of an individual.

US Army Field Manual 22-100, *Army Leadership*, details values, attributes, skills and actions necessary in leaders at all levels. Values and attributes describe leaders of character; skills and actions define competence. But leaders of character and competence are not necessarily compelling.

Self-efficacy, enthusiasm, activity level, rate of talk and extroversion do not appear in US Army leadership doctrine, although they are common leadership terms elsewhere.[1] Many lists of leadership characteristics overlook the essential component or components that meld the leader's attributes with the leader's techniques. One such component is humility.

In *Small Unit Leadership—A Commonsense Approach*, author Mike Malone articulates what humility is and what it looks like. He lists sixteen leadership traits and encourages leaders to:

- Ensure soldiers are rewarded when they perform well.
- Emphasize how significant the soldier is to the unit.
- Describe the unit's performance in terms of "what we did" not "what I did."[2]

Indeed, the description above could readily apply to many organizations by simply removing the word "soldiers" and replacing it with an appropriate substitute. Interestingly, organizations outside the military have begun to value the importance of humility in leaders, being particularly reflective, as we engage the adventures of a new millennium.

The humble leader lacks arrogance, not aggressiveness. The will to serve others eclipses any drive to promote self. . . . Many lists of leadership characteristics overlook the essential component or components that meld the leader's attributes with the leader's techniques. One such component is humility.

Time magazine's millennium edition describes the contributions of three of the world's greatest leaders:

"Roosevelt, Gandhi, Einstein. Three inspiring characters, each representing a different force of history in the past century. They were about as different as any three men are likely to be. Yet each in his own way, both intentionally and not, taught us the century's most important lesson: the value of being both humble and humane. . . . Gandhi was the earthly embodiment of humility . . . he taught us that we should value the civil liberties and individual rights of other human beings, and he lived for (and was killed for) preaching tolerance and pluralism. By exhibiting these virtues, which the century has amply taught us are essential to civilization, we express the humility and humanity that come from

The temptation of ego enhancement often entices many young leaders down the road to frustration and compromise. . . . One could argue that a lack of humility would be acceptable in high-intensity operations. However, the need for stable leaders with authentic humility remains constant.

respecting people who are different from us."[3]

"Einstein taught the greatest humility of all: that we are but a speck in an unfathomable large universe. Roosevelt came to empathize with the poor and the underprivileged, with people to whom fate had dealt a difficult hand."[4]

What does humility look like in a military leader? Humility is not a permanent characteristic. It can be lost or gained since human virtues are imperfect representations of the ideal. An individual may be taught humility by a parent, teacher, coach or mentor. Or one may be humbled following a profound public embarrassment so significant as to be life-changing and value-altering. In another instance, one may acquire humility after being in an important position and realizing the pervasive influences of time and good fortune.

When authentic humility is applied to relationships, mutual trust develops and stirs an abiding sense of loyalty and authentic modesty—creating an environment to achieve great things.

In its purest sense, leading by example means modeling for subordinates the very virtues desired in them. Leaders who direct their attention and effort toward what they give rather than what they will receive enhance group performance. The overarching theme of leadership becomes more clear—unpretentious service to others before self—humility.

Humility is uncommon. The temptation of ego enhancement often entices many young leaders down the road to frustration and compromise. To develop as a leader requires one to learn from mistakes and deal with adversity. To do this requires admitting fallibility, an act of humility. There is little room for arrogance or cynicism in truly great leadership.

Currently, the US military is spread all over the world dealing with a multitude of cultures, many vastly different from western ones. Peacekeeping operations, by their very nature, demand cultural awareness and sensitivity. Working in such environments requires a certain level of humility—service to others before self. Loud, obnoxious, arrogant "mediation" simply will not achieve compromise during a town meeting between Albanians and Serbs.

In contrast to the unique nature and environment of peace operations, one could argue that a lack of humility would be acceptable in high-intensity operations. However, the need for stable leaders with authentic humility remains constant. Indeed, humility transcends context to permeate every action of the leader, renewing credibility and trustworthiness, regardless of the situation, operation or intensity.

Humility must never be viewed as a weakness. Quite the contrary. A leader who can maintain an unpretentious disposition will likely inspire a sense of camaraderie and esprit de corps. A confident leader will demonstrate service in the best interest of the unit by freely accepting accountability for the troops' actions, being humble enough to admit fallibility when in error. Success is all about "team" and "we," not "you" and "me." The humble, effective leader understands that the success is for the unit, not the individual.

Do you need humility to be considered a leader? The short answer is no. But to the extent that character matters in leadership, authentic humility in the leader will assuredly engender trust and collaborative effort within the organization as the group aspires to great achievement. ***MR***

NOTES

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The Path to the Future Army

by Brian J. Dunn

The revolution in military affairs (RMA) calls for an army that can exploit new weapons and methods. Yet the 21st-century US Army must rely on legacy systems before it evolves into the objective force.[1]

Without a single threat around which to plan force structure, there is still a need for strategically mobile units powerful enough to win rapidly and decisively. Since the Army must deploy from the Continental United States (CONUS) and because heavy armor cannot be replaced overnight with lightweight weapons, divisions must be smaller. Already this century, the Army has fielded large square divisions to slug it out in World War I's attrition warfare; smaller mobile divisions for World War II; and big Cold War heavy divisions to absorb massive Soviet tank assaults as well as strategically mobile light divisions.[2]

The next generation's unknown enemies and the need for smaller divisions argue for reviving a modified round-out brigade concept. Such an Active Component (AC)-Reserve Component (RC) integration could create an Army that exploits the RMA yet retains the capability to deploy globally and win across the full spectrum of conflict.

A Smaller Phalanx—For Now

The 21st-century Army will include interim brigade combat teams, seven digitized contingency-force divisions based in CONUS and selectively digitized campaign forces including three AC divisions plus the Army National Guard (ARNG).[3] Contingency forces will need to operate alongside less-digitized units in the ARNG, with allies, the Marines and the rest of the Army.

Projecting a heavy division for XXI (DXXI) is unsatisfactory to some; it rejects fundamental changes based on arguments that the RMA will make the division a redundant layer of command.[4] The division's role in setting the conditions for the brigade fight is still needed.[5]

Given that radical restructuring will disrupt the Army's ability to meet today's threats, the Army's approach is well founded. Nor is DXXI as conservative as it appears. The use of legacy systems is not a failure to exploit the RMA. A revolution is created by many changes, only some of which are revolutionary.[6] DXXI is digitized and seeks a revolution in thinking that is more important than immediate structural changes.[7] It blends today's proven heavy divisions with the promise of tomorrow's digitized brigades using revolutionary weapons.[8]

Although DXXI establishes a sound baseline for discussion, it would be too large to be strategically deployable. More fundamental, plans wrongly assume the Army will fight nothing worse than short and victorious major theater wars (MTWs) and that reserve forces cannot be ready in time. Arguments to convert all ARNG combat brigades into light infantry for domestic operations reflect this reasoning.[9]

Douglas A. McGregor makes an excellent case for land power in *Breaking the Phalanx*.[10] However, like earlier prophets, his conclusion that the age of mass armies has passed is premature. Although a global peer competitor will not likely emerge in the next generation, regional peers could deter the United States by developing large armies shielded by key systems that degrade US technological advantages.[11] The capability to fight a peer rightly resides with ARNG divisions, yet they have no formal role in US war plans.[12]

The Round-Out Concept

Today's Army keeps the active Army and ARNG separate. Although the ARNG needs a role, the force structure should not integrate reservists within AC units that deploy quickly, as DXXI proposes. Time-demands on a citizen-soldier's civilian career might cause retention problems.[13]

Integration is essential, but at brigade level it would make the two-battalion AC brigade nondeployable, as would integration at the battalion level. A promising idea advocates adding a fourth ARNG battalion to AC brigades rather than rounding out. This would preserve a deployable AC unit and improve ARNG training.[14] Although this idea has merit, it is at too low a level to create a full-spectrum force. Including ARNG brigades within a greater number of two-brigade divisions based on DXXI replicates this proposal on a level that creates a full-spectrum Army.

Two brigades are enough to fight. The United States deployed a two-brigade division to Kuwait in early 1998; the British fought in Operation *Desert Storm* with a two-brigade division; and US armored divisions in World War II had only six line battalions. DXXI is designed to defeat offensively an enemy equal in size. Even a two-brigade division that masters this doctrine will be superior to the three-brigade Army of Excellence (AOE) division only able to defeat an enemy one-third its size.[15]

A two-brigade division might lack depth against a tough opponent, however. The ability to deploy strategic distances and fight with two brigades, yet have a third ARNG brigade available, is a prudent course. Objectors who believe reserve components are less ready must consider the excellence of today's AC, which skews RC comparisons. Today's reserves are actually better than the active Army of the 1970s.[16] It is possible to restore a modified round-out brigade concept.

Proposed Structure

A proposed structure for the 21st-century Army is based on three tiers: the contingency force needed within 60 days, the campaign force needed within 90 days and the war reserve force needed starting in 6 months.[17]

Contingency force divisions would field two brigades each with a third ARNG brigade attached. These mostly CONUS-based divisions would execute the halt phase in an MTW. Six contingency force mounted divisions would be at the heart of the Army's offensive capability.

Contingency force divisions would be more deployable than the AOE division or DXXI and more powerful even if the RMA did not multiply their power. Their hedge against RMA failure would be a brigade from the ARNG that could mobilize as time allowed and circumstances demanded. Contingency force divisions not deploying early could donate a brigade to a deploying division if a third brigade was needed quickly. The contingency force mounted division could contain fewer than 12,000 troops.

Campaign force divisions would be a step lower in readiness, with one active and one ARNG enhanced brigade. They would flow into a theater after mobilization to counterattack decisively and defeat the enemy.

Campaign force divisions could also donate an active brigade to a contingency force division or serve well in peace operations by providing a core AC combat brigade with room for attachments from allies, the Marines, military police units, ARNG volunteer companies or battalions and additional support units. Four of these divisions could be Germany-based, and one mounted division would be appropriate for Kuwait should political circumstances allow it.

War-reserve force divisions would be needed last and take the longest to mobilize. It would take at least two years to create one from scratch, but they would be valuable despite lower readiness.[18] The force would include the two integrated divisions (AC headquarters commanding ARNG brigades) as a general reserve force that could serve as a rotation base in a longer MTW. Backfilling the corps in Germany would be another mission for war-reserve-force divisions if they conducted post-mobilization training in Germany.[19] The ARNG's role as a bridge between military and civilian worlds is too important to discard.[20]

Similarly organized light divisions would be more of a challenge. Individual foot soldiers would have to be plugged into the tactical internet.[21] Given that the Army has an airborne division and can look to the Marines for light infantry, light divisions might be a luxury for an Army stretched thin yet expected to win two MTWs. A beefed-up light division based on brigade combat teams might be a better alternative.[22] With a two-brigade active structure, a reasonably sized division with a decent punch could be created.

Exceptions to the basic two-brigade design are airborne and air assault divisions. Their ability to maintain deployable forces if reduced to two brigades is questionable.

The 21st-Century Army

The Army cannot be radically restructured quickly.[23] The proposed divisions would have to be created from the force structure already planned. Active Army divisions would provide 18 heavy brigades, six light brigades, three air assault brigades and three airborne brigades. The ARNG, after implementing an agreement to convert combat brigades to support units, would have 30 combat brigades.[24] These 60 brigades could be organized into 26 divisions (17 AC, two integrated and seven ARNG). Two combined arms divisions (with one combat brigade plus support units) would be included.

This organization takes advantage of the reality that while divisions retain a three-brigade structure, only three AC divisions base all three with the division flag. Every other division, including forward-deployed divisions, functions with two brigades in practice. This proposed division structure would disrupt the Army minimally while allowing it to adapt as new capabilities were verified and as threats became apparent. More division flags will make it easier to test new organizations and tactics.

The Army can also experiment with active brigades under ARNG headquarters with one of the campaign force light divisions. While it makes more sense to place ARNG brigades under AC command, the Army should be open to the reverse. Bunching up brigades three to a division for depth will leave excess division headquarters. The Army could reconstitute divisions around the leftover division headquarters using stockpiled legacy systems enhanced by new munitions.[25] More divisions might also diminish officer-corps careerism and fear of failure evident today, which is exacerbated by competition for prized positions in the 10 divisions.

One possible refinement would be to eliminate one campaign force mounted division. The AC brigade could be converted to an armored cavalry regiment (ACR). The RC enhanced brigade would be assigned to the mounted integrated division and that division's RC brigade would be converted to an ACR.

With focused logistics, the two-brigade division could fight with smaller support units augmented only if a third brigade is attached. Because ARNG and USAR logistic units have better readiness than combat units, they could augment support units. Even DXXI proposes to incorporate reserve squads, platoons and companies eventually instead of individual members.[26]

Flexibility would be enhanced by making brigades more self-contained. The DXXI brigade of three maneuver battalions plus organic mortar, reconnaissance and engineer units is the right amount of combined arms integration for proposed divisions. The ability to operate semi-independently would allow brigades to operate under corps command or be attached to any division in any tier. The battalions will be smaller, as DXXI proposes, with 45 tanks/infantry fighting vehicles in three companies each.[27] Moving toward McGregor's group concept but not yet implementing it leaves room to take the radical leap of eliminating divisions, should supporting evidence be strong enough.

An Army for Any Future

The Army should not design its forces based on speculative revolutionary technology not yet even designed.[28] Such unfounded faith, which dismisses mass, could inculcate within the Army a "silver bullet" mentality that promises clean video-game wars. Already, too many people believe history and the RMA have made large-scale conventional warfare obsolete and advocate a force sized for a one-plus war. This standard assumes the Army will recognize a threat well ahead of time and rearm. Unfortunately, there are many ways to fail.[29] Should a new threat emerge, these proposed divisions could be enlarged without the more provocative step of creating new divisions.

The proposed division concept is a compromise between RMA believers and skeptics—those who believe the Army faces no significant land threat and those who fear it cannot defeat a major land power. It fields streamlined divisions that exploit the RMA with legacy systems geared to fighting tomorrow's MTWs or smaller operations, is expandable to provide depth against an enemy able to mount serious resistance and can evolve into the revolutionary objective force. It will defeat anybody. ***MR***

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The 21st-Century Eurasian Foreign Area Officer

by Lieutenant Colonel John R. Sharp, US Army

Such small, cost-effective force multipliers as the Foreign Area Officer Program (FAOP) gain importance when the overall size or funding of US Armed Forces—especially its overseas presence—decreases. In many countries and regions, foreign area officers (FAOs)—as "strategic scouts"—are the Department of Defense's (DoD's) sole on-the-ground presence.

FAOs serve as the eyes, ears and voice of US defense policy and, at times, single-handedly run security-assistance and military-to-military contact programs. This is particularly true concerning Eurasian FAOs who currently serve as political-military specialists in former Soviet Union (FSU) countries. However, these recent dramatic changes have generated serious concern about how DoD trains foreign area specialists.

The Soviet Era

Before December 1991, Eurasian—then "Soviet-East European"— FAO training was relatively simple. An officer who studied the Russian language and Soviet and Warsaw Pact political-military affairs could operate anywhere from the German Democratic Republic east to Vladivostok.

After an officer received one year of basic Russian-language training at the Defense Language Institute (DLI) in Monterey, California, he attended a civilian university for 18 to 24 months to earn a master's degree. The officer completed his training in a two-year program conducted at the US Army Russian Institute in Garmisch-Partenkirchen, Germany.

The two-year program served as a substitute for the "in-country" phase of an FAO's training, because opportunities for US military officers to travel and study in the Soviet Union were obviously limited. The program also provided additional intermediate and advanced language training and a specialized program of political-military studies.

Transition

Since the Soviet Union's dissolution, 14 embassies—all with defense-attache representation—have opened in the newly independent states. In many of these countries, active security-assistance programs, military-to-military contacts and even joint military exercises now occur where recently no military contacts existed.

Often, a lone US military officer, usually an Army or Marine Corps alumnus of the US Army FAO program, is responsible for overseeing the new programs. In many cases, these officers rotate in and out of such missions from other assignments or even from their training base at the George C. Marshall European Center for Security Studies at Garmisch-Partenkirchen.

While establishing diplomatic relations, embassy country teams are formed and new programs formally created. In Russia, US-Russian

military relations have grown dramatically in terms of quantity, quality and variety, placing ever-increasing demands on the still relatively small military mission in Moscow.

After the Warsaw Pact ceased to exist, Eastern Europe quickly established political-military ties to the West. Eastern European countries not formerly part of the Soviet Union became part of the West European FAO area of operations. However, many Eurasian FAOs still serve in certain East European countries and will probably continue to because cross-training from one Slavic language to another is relatively easy and because their training and education remains relevant during this transition era.

The Challenges

The current Eurasian FAOP faces a new set of political-military, linguistic and professional realities. The Soviet Union did not simply become the Confederation of Independent States, with a dominant Russia and strong central government and economic organs. Instead, newly independent republics developed distinct individual and regional characteristics that defy generalization or easy comparison. A specialist on the Baltic countries might understand little that is relevant for Central Asia, while the Central Asia expert might be poorly versed on the Caucasus. Gone are the days when a "Soviet expert" could claim to speak authoritatively for the entire Eurasian landmass.

Gone too is the easy solution of Russian-language instruction as a panacea for language requirements. While Russian remains an important language in much of its former territory, various indigenous languages are becoming as important. In some, such as the Baltic region, the Russian language might actually be a handicap. A US officer who does not speak some of the native tongue will become only a spectator during conversations and negotiations, included only if his companions speak English or Russian.

The realities of professional life have also changed for Eurasian FAOs. During the old training cycle, they were away from the operational army for up to five years. Today's smaller, more tightly managed, strictly budgeted force—with the Army's shifting priorities—makes a long training program nonviable.

Problem Areas

The soldier. An FAO's perspective makes him who he is. The full spectrum of his experiences and education makes him a unique and valuable member of an embassy country team and gives him credibility with his peers in other armies.

Giving a young officer solid professional education and experience in his basic branch, then sending him away from the force for several years to educate him in the language, culture, politics and military affairs of a region, is expensive, time-consuming and difficult. It is almost impossible for the officer to maintain full professional credentials in his basic branch and his FAO specialty. Officers who stay away from their basic branch too long—or "hide from the fleet" as our Marine Corps FAO brethren would say—have a severe disadvantage in getting competitive branch assignments and experience.

FAO skills and knowledge, especially language, are highly perishable. They cannot be realistically maintained while serving in most non-FAO assignments. Two things give reason to hope that future FAOs will be able to cultivate and maintain appropriate linguistic skills and political-military knowledge while retaining credentials as soldiers.

First, the length of the training program has been reduced and the quality of the training experience has improved. The old two-year Russian Institute program has been replaced by an 18-month tour at the Marshall Center. Further economies are being sought by reducing the time allotted for civilian education.

Second, and more significant, is the introduction of Officer Personnel Management System (OPMS) XXI. OPMS XXI will allow officers to single-track as FAOs from the rank of major and compete for promotion against officers in similar specialties. They would not compete against peers who have spent their careers primarily in the basic branches. They will still periodically serve tours in the operational force but in FAO jobs such as G3 military-to-military or G5 assignments. Time will prove whether OPMS XXI will finally allow the Army to develop true linguists and regional experts and actually retain them in the force.

The statesman. During their tour at the Marshall Center, FAO Senior Fellows undergo intermediate and advanced language training and participate in a specialized program of political-military studies. They also:

- Serve internships at one of the US embassies in the FSU.
- Support military-to-military contacts, joint military exercises or other US government and Marshall Center programs in the region.
- Attend military or civilian training programs in Russia or other FSU countries.
- Conduct directed travel.
- Have near-daily contact with military and civilian defense officials from all over Central and Eastern Europe who attend courses at the Marshall Center and act as sponsors for these students, thus fostering opportunities for a variety of social, professional and academic interactions with which to create a network of friends and professional associates among their international counterparts.

These innovations represent a solid departure from the past and are a sound compromise for the present, but many questions must be answered as the Army moves into the future. For example, is it really possible to train a true specialist who can speak for the political-military and cultural sensitivities of so many increasingly diverse regions? The answer is no.

The Army must subdivide the "Eurasian" specialty, perhaps into Baltic; Slavic (Russia, Belarus, Ukraine); Caucasus/Moldova; and Central Asian subspecialties. Each requires a unique training program. Some programs will need to be based entirely in the country in question. Others can share a common training base such as the one in Garmisch-Partenkirchen. The benefits of such

sub-specialization are obvious; the Army could train true specialists who would devote their entire careers to understanding a particular region's complexities.

Another question is whether these are really the most logical groupings of countries on which a specialist should focus. Caucasus/Moldova certainly leaps out as a rather contrived grouping. Also, how should the Army manage the training and career progression of an officer whose specialty is so narrowly focused? Despite having to address such difficulties, nothing should stop the Army from creating a new set of career fields to replace the Eurasian designation and to promote FAOs in viable and rewarding careers.

The linguist. With regional subspecialization, the Army must decide on which languages or groups of languages to spend training time and dollars. While Russian is clearly still the single most important language in the FSU region, its utility in countries other than Russia and Belem is declining.

In some republics with economic and geographical ties to Russia and large ethnic Russian minorities, Russian will continue to be the *lingua franca.* But more and more hours of primary and secondary education and an increasing percentage of media output are being taught and broadcast in indigenous languages.

The most dramatic move away from Russian influence is occurring in the Baltic states, most notably Estonia, that are rapidly establishing ties to the West and vigorously employing their own languages. Official briefings, official documents and, increasingly, everyday conversations are being conducted in the languages of Uzbek, Ukrainian or Azerbaijani.

Senior officers and defense officials in non-Russian republics who were educated in Russia are happy to do business in Russian. However, the younger generations, which are already displacing their seniors, deliberately speak their native languages, only switching into Russian as a concession to foreigners. The US Army will soon deal with young officers primarily educated in a non-Russian language. In fact, a US FAO might find that he speaks Russian better than his non-Russian interlocutor.

Cross-Training

No issue created more emotion at the "50th Anniversary of Eurasian FAO Training" conference in Garmisch-Partenkirchen than reducing the Russian language focus. Retired or older active-duty FAOs were highly skeptical of attempts to educate an FAO in a second FSU language. They pointed out the danger of producing an officer who spoke two languages poorly rather than one who spoke only Russian well. Their point is valid and difficult to refute.

At the Marshall Center, selected Russian-speaking officers have been cross-trained in Ukrainian. This initiative has largely been limited to those with exceptional Russian-language skills or a prior background in Ukrainian. Beyond that, the only other effort to address non-Russian FSU languages includes a few "survival and familiarization" courses designed primarily so officers can master the basic courtesies and greetings of their target countries. This effort has been constrained by funding.

Personnel managers at the conference pointed out pitfalls of managing careers of non-Russian-language Eurasian FAOs. How would they be tracked and assigned? Would their assignment options be too limited? Looking at these questions from a linguistic point of view suggests two possible career tracks—Slavic and Turkic.

The Slavic Eurasian FAO's career would focus on Russia, Belarus and Ukraine. The Russian and Belarusian languages are so similar that some debate whether they are truly separate languages or are simply dialects. Someone speaking either language can cross-train in Ukrainian rather easily. There are also large ethnic Russian minorities in both Belarus and Ukraine.

The Turkic Eurasian FAO would focus on the culture, politics and languages of Azerbaijan, Turkmenisian, Uzbekistan, Kazakhstan, Kirghizstan and Tajikistan. Although Tajikistan is not linguistically related to the others, it should be included in this group on a geopolitical basis. While there is a significant difference between the various Turkic languages, an FAO who has mastered one has a significant head start on learning another.

Arguably, Turkey should be added to the above group to form a new, truly Turkic FAO specialty. This makes sense from both a linguistic and political-military point of view. Anatolian Turkish is closely related to Azerbeijani and Turkmen and is becoming a Central Asian *lingua franca* because of the popularity of Turkish television and film and the frequent educational exchanges between Turkey and Central Asian states.

The Army must continue to deal with other republics individually, at least as far as language is concerned. Caucasian or Baltic languages are unrelated to one another, so the only utility to be gained by forming a subspecialty dealing with these regions and Moldova is familiarity with issues unique to the area.

As of early 1998, US Army and Marine Corps FAOs were beginning to address the training issues that needed to be resolved if they were to remain effective. The Marshall Center has made a good first effort at moving Eurasian FAO training out of the past and into the future. Where possible, training has been moved out of the classroom and into the field and training is more up-to-date and intense.

However, the services must reexamine and restructure the Eurasian FAOP's entire organization if it is to remain viable. The current model is still driven by a Cold-War template that largely ignores the emergence of the newly independent nations and regions with their own unique problems and plans for the future. ***MR***

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OPMS in a Transforming Army

by Lieutenant Colonel Robert E. Choppa, US Army
and Major Bradley J. Gericke, US Army

"Regardless of how well any [personnel-management] system meets the Army's needs, no matter how well designed it is, no matter how well it articulates a vision for the organization's future, it will not achieve those ends if it is not implemented."[1]

Attention is currently fixed on the challenges and possibilities inherent in the Army's transformation. Yet, it is essential that officers apply energy and attention to continuing the officer corps' salubrity.

Unfortunately, many officers still do not grasp the underlying principles and operation of the Officer Professional Management System (OPMS). Officers—as individuals and as leaders—must devote attention to OPMS requirements and operation and decisively implement educational reforms integral to the program's success. The officer corps' future literally depends on OPMS' success. One OPMS premise is that developing officers who possess unique expertise and knowledge will enhance the Army's warfighting capability. This approach is appealing because of the diverse opportunities that OPMS career fields (CF) create.

Specialized training and education directly influence officer readiness, morale and cohesion. In contrast to previous attempts to fit all officers into a single professional stereotype through a lock-step career pattern, OPMS will allow officers to more readily identify and achieve personal goals. This more flexible military service gives officers more confidence. Confidence allows them to devote more mental reflection and energy toward the lofty ideals of professionalism and leadership. They can then better demonstrate to lieutenants and captains the importance and gratification of remaining in uniform.

Selecting an FA

Under OPMS, officers select a functional area (FA) in their fifth year of service.[2] Permanent FA designation of one-third of each year group's officers into functional areas occurs with promotion to major in or near the tenth year of service. Thereafter, for the duration of their careers, officers are assigned to branches or functional areas within one of the following designated career fields:

- Operations (OP)—66 percent of officers.
- Information Operations (IO)—9 percent of officers.
- Operational Support (OS)—15 percent of officers.
- Institutional Support (IS)—10 percent of officers.

Officers attend schooling then receive their assignment based on their specific branch or functional area's need. The officers compete for promotion only within their respective career fields. Options clearly exist, and officers have much greater responsibility for their own career management.

Not all officers are tactical warriors, but each contributes to the Army's warfighting capability. The nearly 20 distinct functional areas enable officers to pursue individual career paths. Therefore, they will need to define professional goals early, then actively manage their own schooling and assignments to achieve their ambitions. Many officers do not yet fully comprehend the significance or profound implications of this career-field-based management system. The simple fact is that they can no longer absentmindedly "soldier on." They must be attentive to OPMS considerations and become actively involved.

Officers must jettison the notion that the assignment officer and the Personnel Command (PERSCOM) are key to officer management. Those agents merely execute the decisions of commanders, leaders and officers. Individual officers exert great latitude and direct control over most aspects of their career progression. Still, although OPMS is underway, certain aspects of the system remain incomplete.

Integrating OPMS

The Army's recent inauguration of the transformation effort provides an ideal opportunity to fully integrate OPMS. The transformation directed by the chief of staff of the Army is bringing radical change to force structure, equipment and capabilities. It will affect Army leader- and soldier-development programs. Currently, personnel and career-management aspects of transformation point toward a multifunctional and adaptive individual model that might require a new measure of flexibility within all facets of officer personnel management.

Understanding and implementing OPMS now is critical. Officers must be able to respond to potential demands of interim and objective forces and be confident that the personnel-management system will both prepare them for mission accomplishment and safeguard their well-being. Without a fully functioning OPMS, any adjustment to future demands can only meet with frustration.

Three actions are required to complete the institutionalization of OPMS. First, the Command and Staff College (CSC) Board should be eliminated. The annual board is primarily a monument to previous officer-management conditions. The board detracts from readiness because it prolongs the perception of "haves" and "have-nots," directly diminishing officer self-confidence.

The board denies training to approximately one-half of every year group. It also fails to place sufficient numbers of officers in some career fields into seats at Fort Leavenworth.[3] Prolonging the life of this relic undermines OPMS and functions merely as a nod to traditional customs that have become detrimental to the officer corps' well-being.

Second, an intermediate-level education (ILE) policy that allows as many officers as their branch or functional area can support to attend resident training at Fort Leavenworth

should be approved and implemented.

Officers whose primary focus is on the strategic or institutional force should attend resident ILE at schools appropriate to their requirements. Such training could still be conducted at Fort Leavenworth, but education for most IO, OS and IS officers, whose selection would be based on specific FA educational needs, would occur at their own schools and centers. Since each career field would promote officers only from within its own FA, attending school at Fort Leavenworth would provide no advantage to an individual officer.

All officers would receive the training they truly needed to perform their duties in the field—not spend a year "checking the block." Also, commanders and units would be well served because FA officers would be able to continue contributing effectively to their staffs. A flexible ILE assignment policy that recognizes the distinctions inherent within OPMS career fields benefits everyone—individual officers, branches and functional areas, units and the Army.

Third, the sanctity of promotion rates to ensure they are equal across career fields should be preserved. No particular career field should have an advantage. Last-minute movement of officers between career fields to position them for promotion boards must also be prohibited. When the Army needs officers with unique skills, officers across the force must have an equal opportunity to advance in rank and responsibility.

Pursue OPMS

Every officer should maximize his opportunities to actively pursue OPMS implementation. Specific actions at every level would ensure fair and equitable education for all officers.

Senior army leaders should:

- Establish recurring forums by which proponents can raise issues for resolution.
- Review OPMS-related initiatives, determine how to end staff forums and actions that are no longer productive, then decide which programs to continue to resource.
- Provide strategic guidance on the integration of OPMS into interim and objective forces.
- Define the CF coordinator's role and duties for implementing the Army Development System, which manages warrant officers and enlisted soldiers.
- Publicly declare OPMS priorities and support to the field.
- Elevate and communicate the importance of OPMS programs across all personnel life-cycle functions to renew junior officers' pride and confidence in the officer corps, which in turn will prompt them to consider long service careers.

Army staff members should:

- Actively staff Army Regulation (AR) 600-3, *The Army Personnel Proponent System,* which is the underlying regulation for OPMS.[4]
- Ensure adequate resources are provided to major army commands (MACOMs) to establish and sustain all developmental instruction.
- Directly supervise structure decisions to ensure healthy branches and career fields.
- Resource curriculum development, proponency staffs and be available to CF coordinators to help resolve policy and other issues.
- Monitor the human-life-cycle status of each branch and proponent and provide access to proponents for support.
- Keep senior leaders and the field fully informed.
- Listen to MACOMs regarding officer fill decisions.
- Prepare staff recommendations to finish and resolve remaining OPMS issues such as ILE policy, CGSC attendance and confusion regarding the role of FA designation at year 5 for captains.

MACOM commanders and staffs should:

- Document officer specialties to meet requirements.
- Ensure organization changes are made one year in advance.
- Use the personnel system to leverage future change and developments.
- Understand that personnel fill is founded on proper authorizations.
- Clearly identify what type of officer is needed in every position within military tables of organization and equipment and tables of distribution allowance.

Career field coordinators should:

- Prioritize OPMS issues across all life-cycle functions.
- Craft career-field-specific plans and policies to address each career field's unique requirements.
- Communicate with proponents and clearly establish human-resource forums for proponent feedback.
- Ensure published information reaches everyone in the career field.
- Ensure resources are used effectively by integrating force-management and combat-developmental efforts.

Proponent commanding generals and staffs should:

- Ensure that Department of the Army (DA) Pamphlet (PAM) 600-3, *Commissioned Officer Development and Career Management,* is updated to include strategies for officer development at all ranks, including officer military education, advanced civil schooling (ACS), military training and self-development initiatives.[5]
- Press Army leaders for changes as required.
- Provide robust training and educational programs for officers in the newly created, thus fragile, functional areas so the officers can quickly and decisively contribute to the unit's mission.
- Publicize through institutional channels each functional area's contributions to the Army.

Division and corps commanders and staffs should:

- Review emerging doctrinal concepts to ensure the synchronization of personnel systems and warfighting requirements.
- Help staffs integrate officers from different functional areas to ensure they are assigned and used in keeping with their grade and specialty.
- Supervise an energetic command-information system, including key features such as CF designation and the new officer evaluation report.

At the *brigade and battalion commander and staff* level, comprehension and implementation of OPMS is absolutely critical to the Army's success because so many junior officers serve in these units. Therefore, brigade and battalion commanders and

staffs should:

- Acquire, study and disseminate the information in DA PAM 600-3.[6]
- Counsel and mentor officers both formally and informally.
- Recognize that captains who are making career-long decisions will need guidance.
- Understand that a basic branch officer who expresses a desire to serve in a specialty or who possesses unique qualifications might be reluctant to fully disclose his or her intentions.
- Appreciate that the Army requires officers with various skills, and place branch considerations in the context of the Army's and the officer's interests.
- Assign, develop and use junior officers in their specialties.

Branch-qualified captains should:

- Study DA PAM 600-3 in preparation for making an informed CF designation.[7]
- Inform the rater and senior rater of career desires.
- Spend time thinking about professional and personal goals.
- Be honest with themselves.
- Include family and/or friends and mentors in decision making.

Company commanders should:

- Counsel officers in regard to FA and future CF designations.
- Supervise formal and informal development sessions, and discuss opportunities with lieutenants.
- Review subordinates' education, specialty training, performance and desires to provide frank feedback and assessment.
- Have fun—this is the most important position you will ever serve in your career.

Lieutenants and captains should:

- Consider OPMS specialties and educational background when considering future FA designations.
- Recognize that force modifications, personal injury or family considerations can alter career expectations between the fourth and tenth years of service.
- FA designation might increase in importance in the future as they receive training in their specialties as senior captains.

Cadets and candidates should:

- Consider OPMS specialties, educational background and interests when considering branch selection.
- Reflect on and anticipate what types of jobs they would like to have as commissioned officers.
- Think about their goals in regard to military service.
- Speak with as many serving officers as possible.
- Consider taking the Myers-Briggs Test, or other such tests to determine an OPMS specialty that matches individual personality and talent.[8]

The Transformation

As the Army transforms, it should actively cultivate the institutional personnel system. OPMS implementation affects officer attrition, the ability to successfully transform the Army and maintain and preserve warfighting effectiveness. Officers bear specific responsibilities to implement the Army's new Officer Professional Management System, which when used properly can empower individual officers to control their own lives and fulfill their collective obligation to the Army and the nation. ***MR***

NOTES

1. US Department of the Army (DA), Officer Professional Management System XXI, *Final Report for the Chief of Staff of the Army* (Washington, DC: Government Printing Office (GPO), 9 July 1997).
2. This process is temporary in the sense that it can be changed later.
3. The Command and General Staff College nonresident course is inadequate and needs significant revision — a topic worthy of full examination elsewhere.
4. DA, Army Regulation (AR) 600-3, *The Army Personnel Proponent System* (Washington, DC: GPO, 9 July 1997).
5. DA Pamphlet 600-3, *Commissioned Officer Development and Career Management* (Washington, DC: GPO, 1 October 1998).
6. Ibid.
7. Ibid.
8. For an example of the test, see <www.humanmetics.com/cgi-win/Jtypes1.htm>; see also, David Keirsey, *Portraits of Temperament* (Del Mar, CA: Prometheus Nemesis Book Co., 1987).

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MR Almanac

Revolution in Military Affairs—A History

by Robert R. Tomes

In the late 1950s and early 1960s Soviet military analysts routinely predicted a nuclear "revolution in military affairs" (RMA).[1] Author Joseph Douglass's review of Soviet military thought found that such an RMA "had become an accepted precept" among Soviet military theorists by the early 1960s.[2]

A nuclear RMA was more than merely the development of nuclear forces. Beginning in the late 1960s, widespread innovations in Soviet operational art and force structure occurred, which included the development of large armored formations and sweeping changes in operational doctrine.

The Soviets' changes led to United States (US) and NATO innovations, including the US Army's adoption of an "active defense" doctrine. The Soviets responded with increased conventional capabilities and doctrinal innovations such as multiple attacks on broad axes to confuse NATO mobile reserves. These and other changes reduced NATO options for defeating a Soviet thrust into NATO territory, leaving a rapid escalation to nuclear-weapons use as the only effective response.

Soviet changes prompted internal US Army discussions that in 1982 became AirLand Battle doctrine. The same Soviet developments led to shifts in the balance of conventional forces in Europe and the development of technologically superior

weapon systems showcased during the 1991 Persian Gulf War.

The United States leveraged technology to counter Soviet force-structure innovations and create a force-multiplier effect. The United States sought to make existing weapon systems more effective in countering any Soviet thrust. Indeed, these technologically advanced weapon systems were "largely conceived and developed during the 1970s . . . in response to the then-perceived threat of an armored assault by the Warsaw Pact forces in central Europe."[3]

During the Cold War, a causal relationship existed between Soviet responses to a perceived nuclear RMA and the US search for technologically superior conventional weapons to offset Soviet responses. These have not received the attention they deserve in discussions of US RMA.

Doctrinal and technological innovations included:

- The evolution of AirLand Battle doctrine.
- NATO's adoption of a follow-on forces attack (FOFA) doctrine.
- The Defense Advanced Research Project Agency's (DARPA) "assault-breaker" initiative.
- Congressional directives to streamline the development of advanced conventional forces to raise the nuclear threshold.
- The creation of a Conventional Initiatives Office headed by an undersecretary of defense.

These sequential innovations energized the development of precision-strike technology and advances in command, control, communications and intelligence (C^3I) systems central to post-Cold War US RMA. Thus, the term RMA currently applied to US military technology is an outgrowth of a Soviet-US action-reaction arms dynamic that had specific phases or steps. Beginning with Soviet observations of changes in warfare wrought by the advent of nuclear weapons, culminating with US doctrinal and technological responses to a shifting European military balance, these phases trace the historical, conceptual and operational history of US RMA.

Early Soviet RMA

The Soviet RMA of the early 1960s encompassed "[t]he rapid development and mass introduction of nuclear weapons, missiles and radio electronic means among the troops as well as the significant improvement of other types of armament and combat equipment [that] led to fundamental changes in the nature and methods of military actions and to a genuine revolution in military affairs."[4]

Soviet observers saw RMA as more than the invention and introduction of nuclear weapons; they viewed it as a process whereby advances in delivery vehicles and launch methods would spark the "introduction of new weapons in all categories of the armed forces. These weapons produced a complete revolution in military affairs, introduced radical changes in the methods of conducting warfare and made necessary a review of the established principles of the art of war."[5]

Initial Soviet thinking on nuclear RMA is recorded in a "special collection"—a series of papers passed to the West by British-directed spy Oleg Penkovsky.[6] Written in 1958, the papers discuss "the impact of nuclear-tipped rockets on military science."[7] The Strategic Rocket Forces were formed a year later, and in 1960 Soviet President Nikita Khrushchev announced a new military philosophy. He concluded that "nuclear weapons made huge infantry and tank armies redundant" and that along with other changes, "[t]he size of the army would be slashed."[8]

Soviet nuclear RMA writings, many of which underscore current US RMA discussions, addressed the effects of:

- The widening battlefield.
- The expanding tactical, operational and strategic levels of warfare.
- The need to conduct operations of greater depth and audacity, including the need to rapidly penetrate and destroy rear-echelon enemy command and control (C^2) facilities.
- A general increase in the dynamism of combat operations.[9]

On the battlefield, these changes led to the following adaptations:

- The need to mass nuclear strikes rather than assemble masses of conventional forces.
- The need to strike deep into enemy territory in the opening exchange of a battle or war.
- The importance of simultaneous action on the enemy throughout the entire depth of his deployment.
- An increasing emphasis on electronic gear, which included C^2 equipment, logistics management and other electronic systems needed to manage an expanded battlefield.[10]

The Race is to the Swift

Political writer Richard Simpkin outlines four phases of Soviet deep-operations theory that occurred in direct response to the revolutionary impact of nuclear weapons.[11] During the first phase, from the late 1950s through the mid-1960s, the chief planning assumption held that nuclear weapons would be central to any military conflict with NATO.

Planners envisioned operations in which enormous tank formations would roll through areas after they had been "prepared" with nuclear and chemical attacks. Contrary to traditional Soviet views, operational maneuver during this period was not a primary feature in tank operations, because nuclear weapons would obliterate enemy forces. Conventional forces were reduced to mopping up after a nuclear exchange.

Soviet RMA further evolved in 1967 with Operation *Dnieper*, a river-crossing exercise that typified advances in Soviet military doctrine. Previously, doctrine had assumed that conventional operations would coincide with or immediately follow nuclear-weapon use. Now, conventional operations would be followed by a nuclear exchange, which NATO would initiate, followed by a Soviet second strike.

Nuclear RMA precepts continued to dominate Soviet operational planning during phase two. Increased Soviet attention to conventional forces did not mean nuclear weapons were less important to the outcome of battle. They saw ground forces as, in the end, what would be used to implement Soviet offensive strategy.[12]

The second phase in Soviet deep-operations theory coincided with the introduction of the BMP-1 infantry fighting vehicle, the first post-World War II mass-produced armored vehicle. Designed to speed infantry forces into battle along with armor and self-propelled artillery, the BMP would enable rapid penetrations into NATO territory before employing tactical nuclear forces. Essentially, the Soviets adapted their version of RMA to the exigencies of an all-out,

conventional European war that would rapidly escalate to a nuclear exchange.

By the end of the 1960s, nonnuclear operations received significant attention. Writer Robert A. Doughty characterizes the shift in thinking: Soviet "leaders believed that the revolution in military affairs compelled complete revisions in strategy, tactics and force structure. As part of these revisions, the Soviets [further] modified their thinking about the conduct of ground operations in the nuclear age and emphasized dispersion, mobility, high operating tempos and multiple attacks on broad axes."[13]

Analyst David Glantz describes the RMA-induced changes in Soviet operational art: "The projection of nuclear firepower onto the battlefield spelled an end to dense combat formations, tight multiple echelons and contiguous defenses arrayed in great depth. Nuclear weapons fragmented combat and forced potential combatants to disperse their forces and to resort to mobility and speed to achieve operational and tactical success."[14]

As these Soviet revisions in operational art played themselves out in force-structure decisions, the US responded with research and development initiatives that culminated in advances in precision-strike, C^3I technology and technology to promote US air power. Changes in Soviet military thought and force structure adaptations led, in the late 1970s and 1980s, to the refinement and adoption of an AirLand Battle doctrine. At the time, NATO doctrine for preventing a Soviet breakthrough into NATO territory envisioned trying to halt any Soviet penetration while using nuclear weapons to destroy and disrupt Soviet forces reinforcing the penetration.

During the early 1980s, US technological innovation accelerated after phase three of Simpkin's overview of Soviet deep operations theory—the introduction of the operational maneuver group (OMG). Between the second and third phases, Soviet military theorists invigorated their revision of operational art and introduced the concept of a "theater-strategic offensive."

Doctrinally, the OMG encompassed an independent maneuver element, perhaps a reinforced division, which would break through a weak spot in enemy lines to drive as far into enemy territory as possible. The OMG, having achieved a penetration, would be followed by larger, echeloned armor formations that, once the breakthrough occurred, would hit NATO forces with successive waves of massed armored attacks advancing on multiple axes.

Driving into NATO's operational depth would disrupt command and control, facilitate the seizure of critical terrain such as river-crossing sites and, more important, prevent the enemy from launching a nuclear attack on the OMG. Presumably, this would prevent NATO from using nuclear weapons before Soviet forces secured a foothold in NATO territory. The Soviet conventional buildup in the late 1970s and early 1980s, with innovations in the theory of operational maneuver, altered the military balance in Europe and jeopardized the credibility of NATO's nuclear deterrent.

The fourth phase in Soviet deep operations theory, the heliborne assault brigade, was introduced in the early 1980s as a further means to penetrate rapidly and seize critical terrain in enemy territory or attack enemy C^2 facilities. The massive Soviet buildup in conventional arms during the 1970s and 1980s related directly to original Soviet RMA thinking. These original precepts evolved further to extend the underlying tenets of nuclear RMA to all combat arms.

In 1975, Douglass noted: "All arms of the ground forces have undergone stages of profound change in recent decades in the course of the scientific-technical revolution which was caused by the mass introduction of nuclear and missile weapons and the mastering of new types of combat equipment, radio-electronics, automated control systems and means of transport."[15]

US RMA Arrives

In the late 1970s and early 1980s, US response to Soviet operational-art innovations and conventional superiority in Europe focused on doctrinal changes and investing in military technology. Partly because of successive doctrinal changes, many key weapon systems were conceived, including the M1 Abrams tank, the Joint Surveillance and Target Attack Radar System (JSTARS), the Apache helicopter, the Bradley infantry fighting vehicle, the Patriot missile and the multiple-launch rocket system.[16]

Significant technologically advanced weapons, including those emerging from the DARPA assault-breaker initiative, aimed at disrupting the echelons behind the OMG. That is, they were to break the momentum of the echeloned assault by attacking rear echelons as they advanced in march formation toward the front. The intent was to detect, target and attack large armored follow-on forces. The operational theory adopted by NATO, which coincided with the assault-breaker program, was "follow-on forces attack." To champion new military technology, the Department of Defense (DoD) created a conventional-initiatives office.

According to former Secretary of Defense William J. Perry, "it was necessary to give [US] weapons a significant competitive advantage over their opposing counterparts by supporting them on the battlefield with newly developed equipment that multiplied their combat effectiveness."[17]

Current US RMA is linked to the evolution of AirLand Battle doctrine, the technology emerging from the assault-breaker initiative and the efforts of the conventional-initiatives office. In the 1980s, this office sought technological fixes to operational problems that led to precision-strike weapons and cultivated the concept of information superiority, both central to then-current US RMA.

The pantheon of weapon systems the conventional-initiatives office championed included:

- JSTARS.
- The joint tactical fusion program.
- A joint suppression of enemy air defenses program.
- A precision-location strike system.
- A new, integrated air defense system.[18]

At the core of DoD conventional initiatives was a search for means to offset Soviet quantitative advantages with advanced conventional military

technology, thereby creating a conventional deterrent and options to early escalation to nuclear use. At the same time, by striking deep, these weapon systems would carry the fight into Soviet territory early. NATO would have options other than trading space for time or the less attractive option of going nuclear immediately.

These conventional initiatives were galvanized by congressional studies and directives aimed at raising the threshold for nuclear war in Europe. One study pointed out that "these initiatives . . . provide the capability to engage military targets with conventional weapons that previously could be effectively engaged only with nuclear weapons."[19]

Military Technological Revolution (MTR)

In the 1980s, Soviet Marshal Nikolai Ogarkov and other observers reasoned that it would soon be possible for advanced conventional arms to produce battlefield effects similar to tactical nuclear weapons. The US conventional-initiatives program had achieved its objective, at least in creating a conventional deterrent to Soviet ground forces. In time, nuclear deterrence scholarship was supplanted with literature exploring the historical and theoretical basis for conventional deterrence.

Ogarkov reformed the Soviet force structure and pushed for the development of nonnuclear weapons and a more effective mobilization capability, emphasizing speed and mobility.[20] The idea that the NATO nuclear forces' C^2 could be disabled fell from favor as nuclear arsenals were hardened and diversified. Ogarkov believed no first strike could eliminate the potential for massive retaliation.[21]

In addition, Ogarkov believed a further fundamental change had occurred in military affairs. New technology made "it possible to increase sharply, by at least ten times, the strike potential of conventional weapons."[22] Such a situation rubbed against a Soviet doctrinal emphasis on echeloning masses of tanks and armored vehicles. In 1984 Ogarkov was demoted to a regional command position because of his outspoken nature and repeated attempts to increase Soviet defense spending to develop conventional forces.

Soviet military writings of the period emphasize the coming conventional US military technical revolution.[23] Changes in warfare previously discussed in the context of a Soviet nuclear RMA were now associated with a US conventional MTR. These changes included the blurring of the distinction between front and rear, the ability to achieve objectives more quickly, the need for organizational change reflecting changes in warfare and an increased capability for surprise. Emphasis was on audacity in the opening stages of war and the need to address compressed decision cycles for operational maneuvers.[24]

In time, Soviet observers considered developments in conventional armaments a new RMA replicating the undercurrents of the previous one. Indeed, a former Soviet chief of staff remarked that Operation *Desert Storm* was an ideal version of a Soviet nuclear theater-strategic offensive. In Soviet eyes, this amounted to an RMA from *the point of view that an evolving nuclear RMA had been in existence for several decades.*

In the West, MTR suffered through various definitions. By the end of the 1980s, the term focused on technology. A broader term was needed, hence the resurrection of RMA in scholarly discourse and among Pentagon officials intimately familiar with Soviet military theory. US RMA, partly characterized by the multiplier effect of advanced sensor-to-shooter information systems, grew out of the assault-breaker initiative and the conventional-initiatives office, which were a direct response to Soviet force structure decisions and operational-art innovations.

The ongoing discussion of US RMA overlooks the evolutionary nature of military technology developments during the Cold War that concerned conventional force-structure changes and doctrinal innovation. The capabilities sought in current capstone documents are based on the same premises that emerged from the programs and offices as discussed. Indeed, future RMA analysis will benefit from exploring the theory underlying the assault-breaker program and innovations that originated in the conventional-initiatives office. Included in these innovations were new concepts addressing how advanced information systems and C^3I capabilities could make existing weapons more efficient and produce a multiplier effect. ***MR***

NOTES

1. For a survey of Soviet military writing from 1960 to 1974, see William F. Scott, *Soviet Sources of Military Doctrine and Strategy* (New York: National Strategy Information Center, 1975), 21-69. The first reference to a Soviet RMA was a 1961 book edited by Colonel G.A. Fedorov, which was prepared by the faculty of the Lenin Military-Political Academy.
2. Joseph D. Douglass Jr., *The Soviet Theater Nuclear Offensive* (Washington, DC: Government Printing Office (GPO), 1976), 15.
3. William J. Perry, "Desert Storm and Deterrence," *Foreign Affairs* (Fall 1991), 68.
4. Douglass, 16, quoting A.A. Sidorenko, *The Offensive: A Soviet View,* trans., US Air Force (Washington, DC: GPO, 1974).
5. Ibid., 17, quoting I. Zavyakov, "New Weapons and the Art of War," *Red Star* (30 October 1970), trans., Foreign Broadcasting Information Report, *Daily Report: Soviet Union* (4 November 1970), 2.
6. Oleg Penkovsky, *Claws of the Bear: The History of the Red Army from the Revolution to the Present* (Boston: Houghton Mifflin, 1989), 252 *(n 10),* 444.
7. Ibid.
8. Ibid., 253.
9. Douglass, 17. Today the lines between strategic and theater levels of war are blurring. The central elements remain the same—the need to strike throughout the theater simultaneously to support tactical maneuver.
10. Douglass, 17-23.
11. Richard Simpkin, *Race to the Swift: Thoughts of Twenty-First Century Warfare* (New York: Brassey's Defence Publishers, 1985), 44-46.
12. Douglass, 113.
13. Robert A. Doughty, "The Cold War and the Nuclear Era: Adjusting Warfare to Weapons of Mass Destruction," in Robert A. Doughty, Ira D. Gruber, Roy K. Flint, Mark Grimsly and G. Herrin, eds., vol II, *Warfare in the Western World: Military Operations Since 1871* (DC Heath and Company, Lexington, MA: 1996), 858.
14. David Glantz, *The Soviet Airborne Experience* (Fort Leavenworth, KS: Combat Studies Institute, 1984), 161-62.
15. Douglass, 113.
16. Alvin Toffler and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the 21st Century* (Boston: Little, Brown and Company, 1993), 54.
17. Perry, 69.
18. See Benjamin F. Schemmer, "OSD Sets Up New Office to Push 1986-87 IOC on 'Joint Interdiction Program'," *Armed Forces Journal International* (February 1983), 16.
19. Committee of Armed Services, US House of Representatives, 98th Congress, 1st session, *Improved Conventional Force Capability: Raising the Nuclear Threshold* (Washington, DC: GPO, 1984), 1.
20. Timothy J. Colton, *The Dilemma of Reform in the Soviet Union* (New York: Council on Foreign Relations, 1986), 199.
21. Patrick Cockburn, *Getting Russia Wrong: The End of Kremlinology* (London: Verso, 1989), 196.
22. Nikolav Ogarkov, quoted in Cockburn, 196.
23. The term MTR appeared as early as 1973 but was only later used to characterize US forces. MTR was later adopted in the West where it became a synecdoche for a diverse field of new Western military technologies and programs.
24. N.A. Lomov, *Scientific-Technical Progress and the Revolution in Military Affairs: A Soviet View,* trans., US Air Force (Washington, DC: GPO, 1977), 274.

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No More Task Force *Hogans*!

by Major Scott M. Glass, US Army

Several lessons can be learned from the attempts to resupply Task Force (TF) *Hogan* along the Ourthe River during the Battle of the Bulge in December 1944. Maneuver and logistic leaders of the US Army's future interim brigade combat teams (IBCTs) should find the lessons valuable. Combat operations will most certainly require an IBCT to operate away from its supply source. The IBCT could confront nearly the same problems that robbed TF *Hogan* of its tactical flexibility.

Along the Ourthe River

The 3d Armored Division (AD) ceased attacks near Aachen, Germany, in response to Adolf Hitler's Ardennes Offensive in December 1944. From 19 to 20 December, the division deployed from east of Aachen to the area northwest of the German penetration. The division command post was set up in Hotton, Belgium, on the Ourthe River. The division had only about one-third of its usual forces because initial German successes forced US Combat Commands A (CCA) and B (CCB) to fight elsewhere. The combat command reserve (CCR) provided the only forces for reconnaissance and security between the Ourthe River and the Bastogne-Liege highway.

Division commander Major General Maurice Rose divided the CCR into three task forces, each having almost the same number of tanks, scouts and mechanized artillery. Rose gave TF commanders the mission to attack in zone south from the Hotton-Soy-Erezee line then swing west to push the Germans back across the highway. Task Forces *Hogan, Tucker* (later named TF *Orr*) and *Kane* took up positions arrayed west to east respectively.[1]

Lieutenant Colonel Samuel M. Hogan, from the 3d Battalion, 33d Armored Regiment, led a force of approximately 485 men. A company of M-4 Sherman tanks provided his main source of firepower, while M-5 Stuart light tanks and armored cars performed scout duties. A battery of six M-7 Priest 105-millimeter, self-propelled howitzers furnished fire support and one section of quad .50-caliber half-tracks provided air defense.[2] In many ways, TF *Hogan* mirrored currently proposed IBCTs: it had remarkable mobility, a good mix of firepower—and the inability to sustain itself over long distances and extended periods.

Rose intended for Hogan to secure the Ourthe River bridges between Gouvy and Houffalize.[3] On 20 December, TF *Hogan* moved south from Soy and headed southeast along the high ridge east of the river. The move began less than an hour after the last units closed on Hotton from the Aachen road march, preventing all vehicles from refueling to full capacity.[4]

The task force shared other logistic and maneuver parallels with future IBCTs. It began combat operations with fuel supplies on hand close to the limit of the 72 hours of combat action expected of IBCTs. It also planned to operate in an area similar to the 50-kilometer by 50-kilometer box envisioned for an IBCT.[5] Once TF *Hogan* moved south it could be cut off from its nearest source of sustainment at Hotton.

The task force encountered no Germans on its traveling movement through Beffe, Marcourai and La Roche. Hogan's force continued southeast along the river until his scouts drew fire from a roadblock short of Beris Menil.[6] The roadblock protected a crossroads Hogan needed to cover the flanks of the two task forces advancing to his east.[7]

As night approached, Hogan did not want his force to remain strung out along a narrow, winding road with an undetermined number of German units around him, so the task force withdrew to La Roche and set up a defensive perimeter. La Roche had been a supply center for the 7th AD before it had been evacuated a day or two previously.[8] Presumably, Hogan found no fuel there to top off his tanks.

During the night, elements of the 116th Panzer Division cut off TF *Hogan* from friendly lines.[9] *Kampfgruppe* Bayer moved from Samree in Hogan's left rear and turned north to Hotton. The German battle group attacked Hotton, drawing the attention of the only forces Rose could have assembled to clear a way south to Hogan. The door slammed shut, firmly trapping TF *Hogan*.[10]

Circling the Wagons

The 60th *Panzergrenadier* Regiment probed the La Roche perimeter at daybreak. The 3d AD headquarters informed Hogan that German elements held Samree and ordered him to hold in place until it could be recaptured. United States forces attacked Samree, but they could not push the Germans from the village. Hogan was directed to withdraw to Amonines.[11]

Hogan's force left La Roche that afternoon, brushing aside light German forces along the route. The column again passed through Marcourai and moved toward Beffe. As the column closed on the outskirts of Beffe, it lost its lead tank to a *panzerfaust* antitank rocket.[12]

Unsure of the exact situation and certain that he faced a battalion or more, Hogan retreated toward Marcourai and the first defensible piece of terrain. He had unknowingly interrupted the 156th *Panzergrenadier* Regiment's use of Beffe as an assembly area to attack Hotton. The US task force found itself isolated, with German forces to the north, east and south, and a river to the west.[13]

The next day, Hogan received orders to break out through Beffe. The task force soon engaged German tank-infantry team roadblocks. The 3d AD tried to help Hogan with a simultaneous attack north of Beffe, but the assault made no headway. Task Force *Hogan* returned to Marcourai and reestablished the perimeter.[14] Unfortunately for TF *Hogan*, Marcourai was about one mile east of a town that had a nearly identical name—Marcourt.

Faces still blackened from their night escape, members of Task Force *Hogan* receive a belated Christmas dinner outside a church. (*Below*) Lieutenant Colonel Sam Hogan; the last man to withdraw from the pocket on the east bank of the Ourthe River when his men pulled out.

Not Enough Gas

The lack of gasoline now became a problem. The aborted breakout on 21 December depleted the task force's remaining fuel. Hogan informed his higher headquarters that, while he held good defensive ground, he needed fuel and other supplies. He also asked for medical supplies, giving a detailed list.[15] It is significant that Hogan initiated these resupply attempts by air because of the uncertainty concerning available airdrop capabilities. It is also significant that the best chance of replenishing the fuel supply rested on aerial-delivery methods that mechanized units seldom, if ever, used or practiced.

Task Force *Hogan* could spare no gasoline for spoiling attacks. However, its combat vehicles still had nearly full ammunition bins. Hogan rebuffed a German attempt early on 23 December to bluff him into surrendering, then crushed a German assault aimed at influencing him to reconsider.[16]

Sometime during the morning of 23 December near Erezee, 3d AD attempted a novel method of resupplying TF *Hogan.* Cannoneers emptied leaflet shells, reloaded them with medical supplies and fired them at the Marcourai perimeter. The task force recovered a number of the projectiles, but the shocks of firing and impact had ruined the contents.[17]

Twenty-nine C-47 aircraft from the IX Troop Carrier Command's (TCC) 435th Troop Carrier Group left England in the early afternoon of 23 December. The planes carried over 15 tons of supplies for TF *Hogan* packed in door bundles and wing-rack parapacks. Despite gasoline being the most pressing need, the C-47s carried only about 250 gallons. Medical supplies outweighed the gasoline by a 5-to-1 ratio.[18]

No pathfinder detachments were allotted to jump into TF *Hogan*'s perimeter to coordinate with the resupply aircraft, because higher headquarters did not want to waste pathfinders on what it considered a routine drop. Hogan also did not request their use. He knew his position but, as events proved, others did not.

The only beneficiaries of the first drop were German *panzergrenadiers* garrisoning the town of Hives five miles southwest of Marcourai.[19] The grid coordinate that should have been labeled Marcourai was labeled Marcourt instead. Also, the IX TCC expected different drop zone (DZ) markings than TF *Hogan* actually displayed.[20]

Had the drop gone perfectly, TF *Hogan* would have recovered only 250 gallons of gasoline, which was a drop in the bucket considering its need. Because Hogan overstated his medical needs, most of the parapacks contained medical supplies—enough for a force four times TF *Hogan*'s actual size.[21]

For Hogan to have any chance at extricating his task force with mobility intact, another drop would be necessary. Planning for the second drop began immediately after the 3d AD logistic staffs confirmed that none of the supplies had reached Hogan. Seven specific ammunition types and emergency rations were requested for the drop on 24 December. Task Force *Hogan* faced empty fuel tanks, ammunition racks and stomachs.[22]

Thirty-six C-47s from the 438th TCG, left England early on 24 December to conduct the second drop. The loading manifest dovetailed with TF *Hogan*'s actual needs. Parapacks and door bundles carried 1,800 gallons of gasoline, 10 tons of ammunition and 5 tons of rations.

Again, no pathfinder detachments jumped into Hogan's perimeter before the drop to help with DZ marking and to "talk in" the aircraft. However, TF *Hogan* had a plan to help the planes drop accurately. An Air Corps radio technician, who had been shot down the day before and made it into the perimeter, wired a radio so the task force could talk to the dropping aircraft.[23]

The second drop began at 1425, but the aircraft were on a wrong heading, and the drop failed again. Hogan's Air Corps radio technician

contacted the US fighter aircraft flying cover for the mission, but the fighters could not relay corrections to the drop aircraft in time. Ironically, the supplies that tumbled from the C-47s landed in US-held territory around Briscol, seven miles north of Hogan's actual location, and US troops trapped there recovered the supplies.[24]

The Long Walk Home

Frustrated at the second consecutive failure, logistic staffs at division and army level made plans for another try on Christmas Day. Light liaison aircraft would be airborne to guide in the resupply planes—one of the first attempts to use this method in the European Theater. Again, however, no pathfinders would jump to help TF *Hogan* before the drop.[25] By this time, Hogan was satisfied that no resupply could reach the task force, so he decided the force would have to extract itself on foot. The 3d AD headquarters approved his decision.

The task force worked through the night of 24 December and on Christmas Day to destroy and disable vehicles and weapons. Then, after dark, the men blackened their faces and exfiltrated in groups of 20. Only a few failed to make it the nearly 10 miles back to friendly lines. Hogan was the last man out.[26]

Lessons Learned

The failure to resupply TF *Hogan* severely delayed the US effort to block several German divisions on the northwest corner of the Bulge. Task Force *Hogan* could not impede the 116th Panzer Division's crossing of the Ourthe River at La Roche; it could not maneuver to cover other 3d AD task forces trying to hold the Bastogne-Liege highway; its inability to extricate itself prevented it from helping defend the Hotton-Soy line; and it had to abandon its equipment. Only the task force's escape and evasion on foot prevented a complete disaster.

Circumstances surrounding TF *Hogan*'s experience contain valuable teaching points for maneuver and logistic leaders of future IBCTs. The following are a few points to consider.

Air drops. Pathfinder detachments were never used during the supply attempts. In 1944, Pathfinders usually performed the primary missions of clearly marking the DZ, establishing signals and communication with the resupply aircraft.

Although the detachments were available in theater and a considerable number had dropped to support the 101st Airborne Division at Bastogne only the day before, the IX TCC elected not to drop pathfinders into the TF *Hogan* area because of concerns over jump injuries and possible damage to pathfinder communications equipment.[27] The task force paid a heavy price because of this decision.

The difference in what happened with TF *Hogan* and the encircled 101st Airborne Division illustrates another lesson. Hogan oriented on forces arrayed against him and relied on maneuver and tactical flexibility as combat multipliers. The 101st Airborne Division at Bastogne oriented on terrain.

Task Force *Hogan*'s mission was more like what is now expected for IBCTs. The challenge will be for airdrop resupply to pinpoint an IBCT's fast-moving and perhaps smaller "bubble" to fight and win. Pathfinder teams attached or assigned to IBCTs will be part of a winning solution to accurately target and hit this bubble.

United States Air Force Combat Control Teams (CCTs) now provide the services Hogan needed so badly. However, they are not organic to Army units and few Army organizations beyond the airborne community work with them. Deployed IBCTs will need to forge productive, habitual training and mission relationships with supporting CCTs. The IBCT S3 must know who will man the teams, how to request them, what support they will provide and plan occasional training with them.

Pre-rigged supplies. The enhanced mobility inherent in an IBCT has a cost in terms of logistic sustainability. This cost increases as the IBCT displaces away from the point of entry deeper into the area of operations (AO). Maintaining a collection of pre-rigged supplies for aerial delivery is essential to enabling and sustaining IBCT deep maneuver operations. Such a pre-rigged set is worthless unless it is specifically tailored to the IBCT and its mission. If TF *Hogan* is any indication, it should include fuel and demand-predicted petroleum, oil and lubricant package items, munitions expected to be high-use and selected repair parts. Rations can be drawn from theater contingency stocks, and potable water can be rigged to meet requirements.

The IBCT S4 and brigade support battalion support operations officer must have visibility of pre-rigged supplies available in the area of operations. Included in this visibility should be WHAT the supplies are, WHERE they are located and HOW they are configured. Without that information, the IBCT commander cannot call on the full spectrum of logistic options with which to sustain his force.

Pre-rigged sets must be checked to ensure they match the IBCT's equipment and personnel densities. For example, is fuel rigged in 5-gallon cans that would require significant labor and time to distribute, or is the fuel rigged in 500-gallon blivets that can readily fit into IBCT refueling operations? If supplies and packaging are incompatible with IBCT needs, a modification should be requested without delay.

Air resupply training. Logistic channels did not have CSS situational awareness of Hogan's critical need—fuel. Hogan initially requested 400 gallons; only 250 were sent during the first attempt. However, even if TF *Hogan* had recovered and distributed the 250 gallons, the fuel could do little to restore the force's tactical options.[28] Hogan could have benefited from having working knowledge of airdrop resupply. Having such knowledge would probably have caused him to have requested other procedures.

The same CSS situational awareness is necessary at all levels to properly support the IBCT. Such awareness will come only from embedding aerial resupply planning and training into IBCT training. Task Force *Hogan* did not have a clear picture of its own logistic outlook and contributed to the inaccurate requests for resupply. Airdrop request procedures should be routinely practiced for accuracy, efficiency and speed.

IBCT brigade support battalions unquestionably will benefit from training on distribution operations of airdrop supplies. This will prove valuable in providing supplies configured in ways to maximize efficient operations through changing times and locations of distribution points.[29] Training will build speed and efficiency and prevent procedures from having to be learned and refined under combat conditions. Without training, logistic and operational staff elements cannot maximize aerial delivery and its sustainment potential for the IBCT.

Much can be learned from the events surrounding TF *Hogan's* dilemma. Resupply by airdrop has useful, though limited, utility for heavy mechanized forces. However, the IBCT's speed and sustainability limitations could force CSS units to replenish maneuver elements by air. That capability must be trained and ex ercised. If it is not, future IBCTs operating in fluid, fast-paced environments stand an extremely strong chance of repeating the disaster of TF *Hogan.* ***MR***

NOTES

1. *Spearhead in the West: The US Army's 3rd Armored Division* (Frankfurt, Germany: Kunst and Werbedruck, 1945), 222; Hugh M. Cole, *The Ardennes: Battle of the Bulge* (Washington, DC: US Government Printing Office (GPO), 1965), 353.
2. Royce L. Thompson, *Air Supply to Isolated Units, Ardennes Campaign: 16 December 1944-27 January 1945* (Washington, DC: Office of Military History, 1951), 37-63.
3. Spearheading with the Third Armored Division (US Army, 1945).
4. *Spearhead in the West*, 222.
5. US Army Training and Doctrine Command (TRADOC) Revised Draft, *Operational and Organization Concept for the Interim Brigade Combat Team* (18 April 2000), 2-3.
6. Jean Paul Pallud, *The Battle of the Bulge: Then and Now* (London: Plaistow Press Limited, 1996), 234-36.
7. Cole, 353-55.
8. Ibid., 355.
9. *Spearhead in the West*, 223.
10. Cole, 378-79.
11. Pallud, 234.
12. Ibid.
13. Cole, 380-81.
14. Pallud, 234-36.
15. Thompson, 37-38.
16. Cole, 387.
17. Thompson, 40.
18. Ibid., 46.
19. Pallud, 325.
20. Thompson, 40.
21. Ibid., 46.
22. Ibid., 50-51.
23. Ibid., 50-56.
24. Ibid.
25. Thompson, 57.
26. Pallud, 322-25.
27. Thompson,, 46.
28. Ibid., 47-57.
29. TRADOC Revised Draft, 6.

Major Scott T. Glass, US Army, is a division parachute officer, 82d Airborne Division. He received a B.A. from the University of Georgia, an M.A. from Webster University and an M.M.A.S. from the Command and General Staff College. He has served in a variety of command and staff positions in the Continental United States and Italy.

MR Letters

Deep Problem, Shallow Review

I am compelled to disagree, in the strongest possible terms, with the impression conveyed by Major Craig A. Collier's short review of James F. Humphries' book *Through the Valley: Vietnam, 1967-1968,* (Boulder, CO: Lynne Reinner Publishers, 1999) which appeared in the March-April 2000 issue of *Military Review*. As a rifleman in Company A, 4th Battalion, 31st Infantry, 196th Light Infantry Brigade (LIB), in 1968, I am shocked and saddened by the shallow treatment given to Humphries' work.

I read Collier's review shortly after completing the book, so thinking that I might be too biased to comment, I consulted other publications that had run reviews. *Parameters'* positive review by retired Colonel Paul F. Braim, who served four tours in Vietnam, ran in the Winter 1999-2000 issue. Retired General Fredrick Kroesen's review ran in the June 2000 issue of *Army*. Braim describes Humphries' work as "astute and incisive"; Kroesen adds "crisp and factual" and concludes that it is a "worthy addition to anyone's library." So, I am in good company when I suggest that Collier's comments are shallow and misleading.

Collier laments the amount of "often-mundane detail." That "mundane detail" is the clearest account of rifle companies in combat I have read. Humphries draws on unit histories, after-action reports and numerous firsthand accounts from participants ranging from commanders to privates. He even incorporates material from North Vietnamese and Viet Cong documents. I could understand Colliers' reaction from one of my undergraduates, but it is intolerable from an officer.

Also detracting from the action, according to Collier, is that "the names of the soldiers involved in the fighting constantly change." This is not a novel where only insignificant characters are wounded, die or rotate home. Many of us who escaped the mundane details were in hospitals or morgues. I would hope that the lesson to draw from the cavalcade of names is that a war of attrition cuts both ways. Everyone expected to be hit; the question was when and how bad.

Having decided that "our" story is decidedly uninteresting, Collier concludes by noting his dislike of the maps. To me, the maps are gold. Thirty-two years after the fact, I know where I was when I was wounded, and I realize Hill 445 and Fire Support Base (FSB) West were the same place. In our mundane world we never knew where we were—no one considered it important.

A close study of the maps reveals another morale breaker—the painfully predictable patterns of battalion movement. Four companies, often moving as two task forces, so predictably combed an area for the enemy that when one was ambushed the routes of the companies coming to its aid were obvious. No wonder we felt like bait! Contemporary officers would do well to study those maps as Exhibit X of how *not* to move.

As a retired colonel, Humphries is too polite to belabor the other lessons that emerge from the narrative. Some of the most disastrous engagements occurred when we moved at night or in units smaller than company size. We considered both to be tantamount to a death sentence, and my continued dismay over the debacle on 18 May—the morning I was

hit—is enhanced by Humphries' careful re-creation of the slaughter of Company A, 2d Battalion, 1st Infantry, in January. Someone should have recorded that January's lessons.

Humphries' most profound observation is the impact helicopters had on eliminating battalion tactical command posts, which "made the commander oblivious to the chaos and the killing below." This observation should be added to the many postmortems of Vietnam. The post-Persian Gulf and Kosovo debates over technology's impact on doctrine can be, with Humphries' suggestion, extended back to choppers in Vietnam.

While I never heard the slightest whisper of "fragging" an officer who humped the mountains with us, speculation on how to shoot down the battalion commander's command and control ship emerged more than once. One of the most memorable moments of my military career—all 2.5 years of it—was telling our battalion commander—as I was curled up in the corner of an aid station—what I thought about his decision that we should move at night. Had I been able to move either arm, he would have gotten more than words when he walked in and demanded to know "What is going on out there?"

In the 25 years since the fall of Saigon, analysts are still trying to figure out what really happened. The 25 May 2000 *New York Review of Books* essay on 11 books about Vietnam completely ignores any microlevel dimensions, focusing instead on macrolevel strategic and historical issues. The 28 April 2000 *New York Times Magazine* article on West Point historians and Vietnam states that, from their perspective, cadets' future "experiences will be closer to Vietnam than Desert Storm." If they are correct, downplaying the intimate experiences of rifle companies during intense and sustained combat is inviting disaster.

Braim suggests that Humphries has clarified "the high state of discipline of the American units, the quiet dedication of the soldiers to the accomplishment of difficult missions and the heroism displayed as routine responses to enemy actions." That strokes my ego, but it conceals the long-term effects of tactics used in the Que Son and Hiep Duc Valleys.

My recurring questions are How did any of us get out of there alive? and, Why did we keep following orders? Humphries answers the first question through his discussion of "jointness." Air Force, Army and Marine Corps pilots braved the weather and enemy fire to keep us alive. Unlike other accounts geared solely to the "glory of the infantry," Humphries gives credit where it is due.

The answer to the second question is "we" didn't. In August 1969, an element of the 196th LIB sat down on the slopes of Nuy Lon Mountain and refused to move. In *Live From the Battlefield* (Simon & Schuster, NY, 1994), Peter Arnett, who was at FSB Center, quotes the company commander: "We've got a leadership problem; most of our squad and platoon leaders have been killed or wounded." That action was the culmination of the mundane details, the constantly changing names and the months of predictable movement that Humphries' book describes.

When they got tired of being "trolled"—a concept introduced by Harold Peppers on 17 May 1968 as we prepared to move out in the dark toward Nuy Lon, where he was killed a few hours later—the United States lost the war. I know of no better source than *Through the Valley* to clarify the depths of dedication and the anguish of Vietnam.

Specialist 4 Byron Dare, ***Retired, Ph.D., Fort Lewis College, Durango, Colorado***

Sonora

I was glad to see the interesting article "Mexico's Multimission Force for Internal Security," in the July-August 2000 issue of *Military Review*. Military developments in our southern neighbor nation need to receive increasing attention. Such attention is important not only because of the corruption, internal unrest, alien smuggling and other contentious issues mentioned in the article. Mexico's population is now around 100 million and growing rapidly, and the outcome of the recent presidential election could presage major changes. Please take note of one slip, however. In the map of Mexico on page 42, the Mexican state in the northwestern part of the country is Sonora, not Sorna.

Keir B. Sterling,
Command Historian, US Army CASCOM, Fort Lee, Virginia

MR Review Essay

Army Relations with Congress: Thick Armor

by Lieutenant Colonel Chris King, US Army

Preparations are underway in three key areas set forth in the US Army's new vision: recapitalizing the legacy force, establishing an interim force and developing the objective force. Congress is fulfilling its constitutional role of overseeing these initiatives. Congressional support is tentative, however. In the Senate Armed Services Committee's version of the Fiscal Year 2001 *Defense Authorization Bill*, Congress directs the Army to compare two separately equipped battalions as part of the process to field an interim force.

Generally speaking, a military service simply cannot develop an initiative that requires significant funding, tell Congress "this is what we intend to do," then expect unconditional approval. Given the agenda to transform itself, how well is the Army positioned to garner needed congressional support?

In *Army Relations with Congress: Thick Armor, Dull Sword, Slow*

Horse (Westport, CT: Praeger Publishers, 2000), Stephen K. Scroggs describes and explains some factors that seriously hinder an effective relationship with Congress. Scroggs's main argument is that the Army's culture largely explains its difficulty in establishing a productive relationship.

In 1995 Scroggs conducted more than 130 interviews with current and former members of Congress, congressional staffs, Army chiefs of staff, secretaries and assistant secretaries, legislative liaison officers from all services and other Army generals and staff members. He identified several trends that characterize the Army's relationship with Congress relative to that of the other services.

Congress rates the Army the highest in honesty, but in nothing else. Congress's perception is that the Army:

- Sees Congress as a hindrance rather than a help.
- Does not understand Congress's role.
- Does not understand the importance of having senior general officers represented and engaged with Congress.
- Is more reactive and less proactive in representing institutional interests.
- Has limited and less sophisticated outreach efforts with which to interact with members of Congress.
- Does not do well in communicating its priorities and larger message.
- Is not creating a pool of future leaders with congressional-liaison experience because legislative liaison (LL) personnel usually leave the service, which indicates that the Army does not perceive this area's importance.

Scroggs turns to the literature on organizational culture and civil-military relations for an explanation. Two facts underpin the Army's cultural dimensions and make it difficult for the Army to communicate its needs. First, from the Army's inception it has accepted the fact that it is under civilian control. Second, the Army has had to remain independent of political control.

Army officers still strongly cling to the notion that they should avoid interaction with Congress, viewing such activity as lobbying. To his credit, Scroggs explains at length the difference between lobbying and providing liaison and clearly explains that keeping Congress informed of Army interests does not constitute lobbying.

Such beliefs contribute to widely held norms and assumptions that Scroggs sets forth as Army cultural dimensions that make it difficult, but not impossible, to establish an effective working relationship with Congress:

- The Army fixates internally, largely ignoring the public, the media, Congress and even the Department of Defense (DoD).
- The Army values teamwork and relies on other services to arrive at and win on the battlefield, which works against its congressional advocacy efforts.
- The Army does not reward combat arms officers who have Washington experience, especially in assignments that require them to work with external audiences such as Congress and the media.
- The Army views itself as a public servant, which makes it a reluctant advocate for positions that DoD does not endorse.
- The peacetime Army is risk-averse and, therefore, reluctant to engage Congress proactively.

Former Army civilian and military leaders have been effective despite these strongly held beliefs, but if senior Army leaders would place sufficient emphasis on communicating with external audiences such as Congress and would adopt comprehensive measures to improve in these areas, they would do much better.

From his 1998 follow-up interviews, Scroggs concludes that the Army has made limited progress in improving relations with Congress, mostly because the Army has been proactive in making a number of changes, many of which Scroggs recommended.

First, senior Army leaders are saying emphatically that to achieve transformation the Army needs additional funding. Second, Secretary of the Army Louis Caldera, Chief of Staff General Eric K. Shinseki and Vice Chief General Jack Keane have emphasized improving Army-congressional relations. Increased emphasis in this area can probably best be measured by the decision to devote resources to the task.

In addition to the time senior Army leaders have devoted to establishing congressional relationships, they have filled the deputy chief of legislative liaison position with a one-star general officer, a slot authorized but unfilled during the time of Scroggs's research. This move should increase the chief of legislative liaison's effectiveness and send a strong message to Congress that the Army values its ties to Congress.

Despite challenges, the last two chiefs of legislative liaison have successfully attracted talented officers. The LL office has also strengthened the congressional fellowship program, and over half of the last three cohorts of fellows have been selected for command when eligible. These changes will begin to affect the Army as these officers' careers progress.

Current Army leaders have articulated a vision for change and staked considerable resources toward it. However, whether this commitment will be sufficient to garner congressional support is less clear.

Army leaders' most important task is to explain why the Army must change, what the change is intended to accomplish, why the Army has chosen a particular process to bring about that change and convince Congress to fund the process. How well the Army does this could easily be the subject of another dissertation.

Developing relationships, gaining access, promoting liaison officers and having a vision are all for naught if the Army cannot craft and explain a plan that is complete, integrated and worth its proposed cost. Future congressional support for Army transformation will be neither certain nor unconditional. Therefore, Scroggs's findings should not be overlooked. ***MR***

Lieutenant Colonel Chris King is a congressional fellow in the office of Senator Joe Lieberman, Washington, DC. He received a B.S. from the US Military Academy and an M.P.A. from Princeton University. He is a graduate of the Command and General Staff College. He has served in a variety of command and staff positions in the Continental United States and Germany.

Military Review, June 1952

United Nations Forces in Korea

The troops under the command of General Ridgway, including not only our own but those of 16 other free nations, constitute, I believe, the most significant army on the face of the globe today. We are all familiar with the splendor of their heroic deeds. — President Harry S. Truman

Communist aggression in Korea, which brought with it renewed awareness of common interests and common peril to the free nations, was, and is being, met and challenged by the firm determination of the United Nations.

The United Nations polynational and polylingual military forces in Korea now include personnel from Australia, Belgium, Canada, Colombia, Denmark, Ethiopia, France, Great Britain, Greece, India, Luxembourg, the Netherlands, New Zealand, Norway, the Philippines, Sweden, Thailand, Turkey, the Union of South Africa, and, of course, the United States and the Republic of Korea.

Despite the fluctuations in fighting strengths, in proportion, all the United Nations forces have suffered large numbers of casualties; they also have—in the case of the British, the Dutch, the French, and the Turks—won unit citations for extraordinary achievements in battle, and have, all things considered, made a substantial contribution to the accomplishments of the total United Nations forces.

For this impressive record, the world owes its thanks to the people who made it possible: the men who have fought or are fighting in Korea, and, especially, to those who have made the greatest of all sacrifices. If these men had failed in Korea, the free world could never have built the unified strength that it has during the past year and a half. If these men had failed, no one would be able to state truthfully, as General Ridgway has, the belief that "history may some day record that the crest of the Communist wave of cold-blooded aggression was broken against the arms and the will to fight of the United Nations battle team in Korea."

The people of the free world, realizing the sacrifices that have been and will be required of them, although divided on many issues, are cooperating in a military operation in Korea to stem the tide of Communist aggression. They realize that merely to desire peace does not guarantee it and that if freedom is to survive, it must be stronger than freedom's enemies.

Photos: *War in Korea*, Presidio Press

(*Photos clockwise*) British Bren-gunners in the Pusan Parimeter: A South African pilot taxis his F-51 down a runway in North Korea; Ethiopian mortarmen sttached to the US 7th Infantry Division; Australian soldiers pause as US and South Korean engineers hastily reinforce a pontoon bridge; New Zealand fild artillery moving to the front; Greek troops arrive in Korea; an Indian medic assists Korean civilians; and Turkish soldiers along the outpost line (This photo to come).

MR From My Bookshelf

Cracking the Line

by Major Jeffrey C. Alfier, US Air Force

Historian Nathan Prefer's book, ***Patton's Ghost Corps: Cracking the Siegfried Line*** (Presidio Press, Novato, CA, 1998, 243 pages, $24.95) offers two salient themes. First, it examines US ground combat in Germany's vital Saar-Moselle triangle from 1944 to 1945. Second, it helps correct a seemingly pandemic misunderstanding that the US Army defeated its German opponents only through superior manpower and logistics.

Prefer's exhaustive work is a welcome companion to Allyn R. Vannoy and Jay Karamales' ***Against the Panzers*** (McFarland & Co., Jefferson, NC, 1996, $48.50); Michael D. Doubler's ***Closing With the Enemy*** (University Press of Kansas, Lawrence, 1995, $17.95); and Keith E. Bonn's ***When the Odds Were Even*** (Presidio Press, Novato, CA, 1996, $16.95). Such studies also show that US soldiers prevailed through combined arms warfare and operational and tactical skills equal to the Germans'.

Achieving such parity proved no facile undertaking; it took weeks to penetrate German defenses in costly town-by-town engagements and assaults on the redoubtable Siegfried Line. Casualties reduced some US battalions by as much as 30 percent. Yet, as Prefer amply illustrates, the US XX Ghost Corps performed well against such vaunted units as Germany's 11th Panzer Division.

Despite Prefer's excellent research and writing, the book has flaws. When introducing military units or commanders, he digresses into biographical data or unit lineage. In addition, skepticism is warranted toward generals' reports when using them as primary sources. For instance, morale was more of a problem than commanders would admit. (See Francis Stechel, "Morale Problems in Combat: American Soldiers in Europe in World War II, *Army History* (Summer 1994).) Prefer's claim that Lieutenant General Courtney Hodges stopped the German onslaught at the Battle of the Bulge has been refuted. John D. Morelock's exhaustive study, ***Generals of the Ardennes: American Leadership in the Battle of the Bulge*** (Accents Publications Service, Silver Spring, MD, 1994, $30.00), shows Hodges faltering in the face of the *Wehrmacht*.

Although Prefer's work joins a growing body of studies correcting inaccurate views of US combat skills, German combat prowess cannot be easily dismissed. However, many of the best German units were fighting on the Eastern Front. Historiographical equilibrium is better found in Michael Reynolds' erudite ***Steel Inferno*** (Dell Publishing, NY, 1998, $6.50); Edward Miller's ***A Dark and Bloody Ground*** (Texas A&M University Press, College Station, 1995, $32.95); or Paul Fussell's ***Wartime: Understanding and Behavior in the Second World War*** (Oxford University Press, NY, 1989, $35.00).

These comments aside, Prefer's detailed, balanced, insightful narrative offers accessible history and a welcome addition to bookshelves. He reminds us that in Tettingen, Butzdorf and Nennig—German towns that fork no lightening in our historical consciousness—US soldiers secured a world of freedom at the price of their innocence. ***MR***

Major Jeffrey C. Alfier is a battle staff operations officer, at Davis-Monthan Air Force Base, Arizona. He received a B.A. from the University of Maryland and an M.A. from California State University. He has served in a variety of command and staff positions in the Continental United States, Germany, and Iceland. His articles have appeared in Aerospace Power Journal, USAF Weapons Review, The Combat Edge and Flying Safety. *He is a frequent contributor to* Military Review.

MR Book Reviews

TECUMSEH: A Life, John Sugden, Henry Holt and Co., NY, 1998, 492 pages, $34.95.

Shawnee Chief Tecumseh, one of the greatest Indian leaders of all time, devoted his life to uniting the eastern tribes in a stand against land-hungry whites. He had visions of an Indian confederacy to extend from the Great Lakes to the Gulf of Mexico. He traveled over vast territory to unite the various Indian tribes, but language, customs and geopolitical factors worked against him.

As a young man, Tecumseh was not as important as his brother Lalawethika the Prophet, who in 1805 began the Shawnee reform movement, which advocated that the Indians disassociate with whites. Tecumseh later overshadowed Lalawethika, rising swiftly to prominence by displaying energy, versatility and courage.

Tecumseh realized that if the Indians were to reclaim their lands, they had to join forces with the British, who sorely needed their support. Tecumseh wanted the British to take the offense against American "Big Knives" to restore Indian lands. But, by the end of the War of 1812, the British were too weak to take the offense and eventually lost the war. Tecumseh was mortally wounded in the Battle of Thames, and the Eastern Indians never again seriously threatened western expansion.

COL C.E. Hatch, ***USMC, Retired, Foster, Oklahoma***

SOURCES OF CONFLICT IN THE 21ST CENTURY: Regional Futures and U.S. Strategy, Zalmay Khalilzad, ed., The RAND Corporation, Santa Monica, CA, 1998, 336 pages, $20.00.

Sources of Conflict in the 21st Century assembles analyses from a 1996 RAND Corporation research study for the Project AIR FORCE Strategy and Doctrine Program. The book posits three alternative "worlds" — from the evolutionary to the benign to the malignant — and identifies important wild cards capable of upsetting straight-line analyses.

The first alternative world represents a base case of what 2025 might look like from a linear projection of today's world. The second alternative is a more benign world with more cooperation than conflict, peace among the great powers and active cooperation to prevent or terminate clashes among lesser actors. The third alternative represents the worst-case scenario — instability, weapons proliferation, tenuous peace and economic, demographic and political turmoil.

The wild cards include environmental catastrophes such as the emergence of a new, lethal virus; an earthquake of massive scale; or a gigantic asteroid collision with earth. Others are political upheavals such as revolutionary collapse of a regional ally and assumption of power by extremists in a nuclear-armed country and technological developments such as a new energy source.

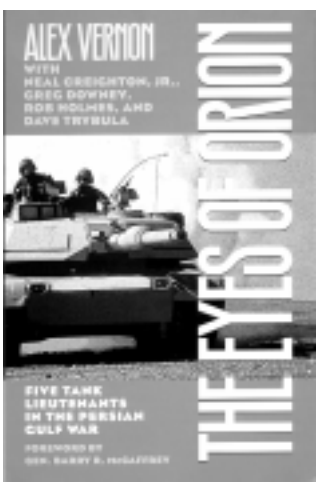
The book identifies global awareness, global reach, rapid reaction and appropriate force as critical qualities for the future US Air Force. It also examines current political trends and potential sources of conflict through the year 2025 in Asia, the Greater Middle East and Europe, and the former Soviet Union. It concludes by discussing the implications for the US Air Force of 2025, particularly strategic-level observations, the meaning for air and space power and national security policy in general.

While the three models presented are hardly surprising, authors of the chapters on regional security environment generally make sound, logical and at times interesting arguments. However, they do not link the wild cards with the strategic implications presented in subsequent chapters.

While recognizing that the United States will continue to be a superpower, the book does not clearly address how US policies and actions might affect the rest of the world. Overall, the book is useful, not only for Air Force strategic planning but for presenting global possibilities in an uncertain future.

MAJ C.L. Tan, ***USA, Fort Leavenworth, Kansas***

Editor's note: In the July-August 2000 issue, *MR* inadvertently inserting the word "Confederate" instead of "Revolutionary" into Major William T. Bohne's review of *A Devil of a Whipping: The Battle of Cowpens*, by Lawrence E. Babits. We regret the error.



THE EYES OF ORION: Five Tank Lieutenants in the Persian Gulf War, Alex Vernon, with Creighton Neal Jr. and Barry R. McCaffrey, Kent State University Press, Kent, OH, 1999, 330 pages, $35.00.

Generals Normal Schwarzkof, Frederick M. Franks Jr., and Barry McCaffery have written about the Persian Gulf War from theater-, corps- and division-level perspectives. In *The Eyes of Orion,* Lieutenants Alex Vernon, Neal Creighton Jr., Greg Downey, Rob Holmes and Dave Trybula tell the story from a closer view. Each was on his first command and joined the 24th Infantry Division (Mechanized) in time to participate in several exercises at the National Training Center before deploying to Saudi Arabia. Their assignments placed them at "the tip of the spear" as their division advanced into Iraq.

Division lead elements encountered an unexpected variant of the meeting engagement shortly after the cease fire. Convoys of retreating Iraqi forces attempted to breach roadblocks established to halt the return of Irag's forces to Baghdad. When retreating Iraqis ignored warning shots, the division was drawn into firefights that led to the destruction of most of the defeated enemy's trucks. Among the casualties were a number of civilians. This brief engagement was clearly a tragedy, but it pales in perspective when compared with the recounted scenario in which one of the greatest armored battles in history helped restore freedom to an entire country.

The Eyes of Orion is an important book, not only as a reminder of the importance of training and small-unit leadership but as a reflection of the broader forces shaping society. In the years since their return from the Persian Gulf, eight of the nine lieutenants have left the army. While there is no single reason for their decisions, each considered his wartime experience a defining moment that triggered a self-reassessment. Their deeply felt concerns about their pasts and their futures are disturbing and thought-provoking.

COL John Messer, *USAR, Retired, Ludington, Mchigan*

WAR AS AN INSTRUMENT OF POLICY: Past, Present, and Future, David V. Nowlin and Ronald J. Stupak, University Press of America, Lanham, MD, 1998, 244 pages, $29.50.

In *War as an Instrument of Power: Past, Present, and Future,* David V. Nowlin and Ronald J. Stupak present a compelling argument that the principles of war provide a rational, structured approach to whether and how to use military power. When applied to high-level government decision making, the military principles of war minimize unknowns and obstacles and increase the likelihood of success.

Nowlin and Stupak examine the emergence of limited war following World War II. Then, using the example of the US failure in Vietnam, they underscore the importance of a rational, structured decision-making process. Their thorough review proceeds through decision-making theory, US military strategic thought and the national security policy process.

The 1987 South African Angola Campaign and Operation *Desert Storm* are settings to explore how the principles of war affect operational success or failure. The authors then link success and failure to senior civilian and military leaders' adherence to the principles of war. This treatment reinforces the importance of such principles for soldiers, statesmen and students of national security strategy.

MAJ Timothy P. McGuire, *USA, Fort Leavenworth, KS*

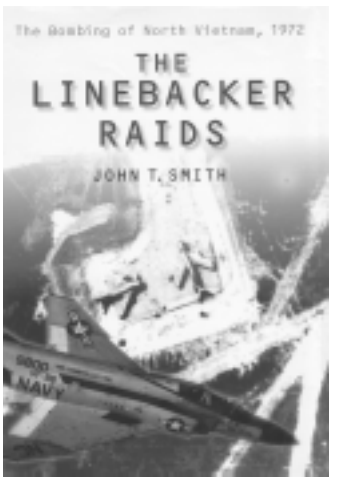
MY RISE AND FALL, Benito Mussolini with Richard Lamb, Da Capo Press, NY, 1998, 392 pages, $18.95.

My Rise and Fall is the detailed, partially personal account of dictator Benito Mussolini's struggle to acquire absolute power over Italy. As the autobiography of a dictator, the book serves no other purpose than to praise and justify the author's actions while criticizing those of his opponents. The most striking characteristic of Mussolini's writing is his unbridled egocentrism and arrogance. This conceit virtually drips from the pages of *My Autobiography* (out of print), which Mussolini wrote while he was enjoying his greatest success.

In the introduction to *My Rise and Fall*, Richard Lamb insightfully describes Mussolini: "Il Duce was a highly intelligent and very popular ruler with a flair for government. His faults were his oscillations, overquick reactions and his readiness to use violence, and—in the end—his greed to partake of the spoils of the conquest with [German dictator Adolf] Hitler."

Mussolini is a case-study dictator convinced that his fate is the nation's fate. Given enough time in power—and Mussolini had 21 years—this belief becomes a self-fulfilling prophecy. The lesson for the strategist is that a nation's well-being is intrinsically connected to the method of transferring national power, regardless of the charisma and talents of a single individual. The nation that is seduced by the talent of an individual without scrutinizing the future, internal strategy of the nation guarantees only temporary relief to national troubles.

MAJ Joseph Eggert-Piontek, *USA, Fort Leavenworth, Kansas*



THE LINEBACKER RAIDS: The Bombing of North Vietnam, 1972, John T. Smith, Arms & Armour Press, London. Distributed by Sterling Publishing, NY, 1998, 224 pages, $24.95.

The relationship between airpower and achieving political objectives is controversial. Politicians often hope that airpower alone can force an unwilling opponent to the negotiation table. The theory is that such damage will convince an opponent that it is in his nation's best interest to cease whatever actions have led to the bombing campaign.

The Linebacker Raids, by John T. Smith, begins with a short history of airpower theory, reviews air operations in Vietnam before 1972, then gives a month-by-month and sometimes day-by-day narrative of the raids. Smith uses the experiences of pilots and crews to convey the intensity of the raids and the air-to-air combat that occurred between US fighters and North Vietnamese MiGs.

Public opposition to the war, Watergate, congressional unwillingness to continue funding South Vietnamese armed forces and the demand for the return of US prisoners of war made the results of the raids a hollow victory. They fed political leaders' almost fanatical desire to use airpower to achieve objectives without loss of friendly lives and without inflicting collateral damage on civilians.

Smith's last two sentences should be pondered and digested: "It can be said that 'Linebacker II' did help to bring a settlement, but it did not bring victory. Two years after Nixon's 'peace with honor' the North Vietnamese tanks rolled into Saigon." This is the real lesson of Linebacker and one that requires more extensive analysis than this book provides. Smith rightly realizes that airpower, as a component of military power, is only one tool needed to solve political problems. It is unfortunate he did not delve deeper into the subject.

LTC Richard L. Kiper, ***USA, Retired, Leavenworth, Kansas***

NATO 1997: Year of Change, Lawrence R. Chalmer and Jonathon W. Pierce, eds., National Defense University Press, Washington, DC, 1998, 245 pages, out of print.

NATO 1997: Year of Change consists of selected papers from a symposium sponsored by the Institute for National Strategic Studies held at the National Defense University in 1997. The symposium, titled "NATO: After the Madrid Summit," asked participants to think beyond the current issues of inviting three countries to become new members of NATO and present analytical pieces that would transcend the evolution of the alliance and discuss issues beyond enlargement.

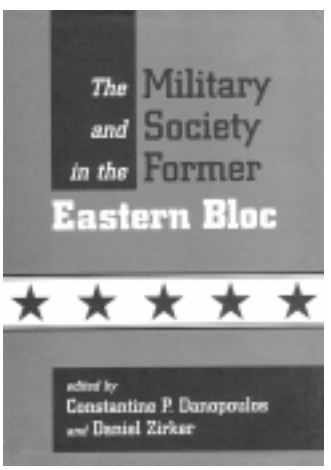
David C. Gompert's paper identifies two issues that affect the roles of European security organizations. First, he states that NATO's strategic purpose is changing from a focus on the defense and security of Europe to one defending shared vital interests. Second, he discusses the redistribution of NATO command responsibilities. On the later point, Ronald Tiersky's paper identifies the dichotomy of the US position not to relinquish command of Allied Forces South while demanding that Europe shoulder a larger military/security burden.

The common theme among the articles is that the benefits of NATO enlargement include enhanced security and democratic and market reforms. The desire of many nations to pursue NATO membership has resulted in national policies that make for a more stable and secure Europe.

The book's appendixes contain pertinent NATO documents and US public testimony on the issue of NATO enlargement. The bibliography is rather short and incomplete, although it does contain some valuable Internet addresses.

The issues presented in this book are as valid today as when first published. The Institute for National Strategic Studies and the National Defense University would be well served to sponsor another symposium before the 50th anniversary of the Washington Summit.

MAJ Troy H. Lewis Sr., ***USA, Fort Leavenworth, Kansas***



THE MILITARY AND SOCIETY IN THE FORMER EASTERN BLOC, Constantine P. Danopoulos and Daniel G. Zirker, eds., Westview Press, Boulder, CO, 1998, 232 pages, $55.00.

The Military and Society in the Former Eastern Block is a follow-up to *Civil-Military Relations in the Soviet and Yugoslav Successor States* (Westview Press, Boulder, CO, 1996, $75.00). The book's essays focus on specific former Eastern-bloc countries to evaluate progress in civil-military relations as each country moves toward democracy.

Danopoulos acknowledges that the countries face serious social, economic and political problems. He recognizes that although none are "consolidated" democracies, some are further along than others. He defines democratic consolidation as the time when "all the actors in the polity become habituated to the fact that political conflict will be resolved according to the established norms and that violations of these norms are likely to be both ineffective and costly."

In their thesis, Danopoulos and Zirker delineate a four-step process necessary for integrating the military into a society striving for democracy. The first two steps are somewhat similar—"depoliticization" and "departyization." The first term means "removing and keeping the military from everyday party politics" and discouraging it from taking public stands on political and policy issues. Departyization includes severing the military's relationship with the Communist Party and forbidding it from developing ties with another political or ideological group. Case studies show that Russia, Ukraine and Albania have struggled with this issue the most. Poland, Hungary and the Czech Republic have been successful, and it is no coincidence that they are the three newest members of NATO.

The third step is "democratization," which entails "defining the armed forces' role, mission and activities and bringing the military under the control of the legitimate and freely chosen political authorities."

The fourth step is "professionalization." Reciprocal visits and training in NATO countries reinforce Western perspectives of professionalism. Once the essayists present these criteria, the rest of the book is devoted to examining the 10 case studies using Danopoulos' model as an evaluation tool.

The book falls short in several areas. The information is somewhat dated, being mostly from 1994 to 1996. Also, not enough effort is devoted to assessing possible future developments. The editors assume that every country's final destination is democracy and do not allow for any other alternative. Overall the book provides a good background despite its inadequacies.

MAJ Gregory D. Wright, ***USA, Fort Leavenworth, Kansas***

THE ZULUS AND MATABELE: Warrior Nations, Glen Lyndon Dodds, Arms & Armour Press, London, 1998, 256 pages, $24.95.

Two things are necessary to understand Africa today—the history of local tribes and the aftermath of European partition of the continent.

The Zulus and Matabele, by Glen Lyndon Dodds, provides the histories of two South African tribes that successfully established new nations. The tribes are not homogeneous; they consist of many different tribes who adopted new tribal identities after having been absorbed by conquest.

This book, which gives an interesting yet compact history of each tribe, also contains an epilogue that briefly discusses conditions today. The bibliography is an excellent cross-section of local history and provides many avenues for further study.

MAJ William T. Bohne, ***USA, Retired, Leavenworth, Kansas***

CAUSES OF WAR: Power and the Roots of Conflict, Stephen Van Evera, Cornell University Press, Ithaca, NY, 1999, 268 pages, $35.00.

Theory—the study of recurrent patterns of phenomenon—is harder to comprehend and more useful than history—the study of specific or singular events. Stephen Van Evera of the Massachusetts Institute of Technology's National Security Studies Program does not just write theory; he writes theory that is specifically beneficial to mankind.

Unlike most academics who simply value ideas in their own right, Van Evera is not interested in explanations of war causation of little or no use in reducing the prevalence of war. Therefore, he is indifferent to classic realism—the theory that nations go to war because they must defend their interests, primarily national security, in a world inherently marked by aggressive competition, if not deadly anarchy.

Van Evera does not question the pure intellectual validity of this proposition as much as he finds it useless to those seeking to build a more peaceful world. He is far more interested in the idea that wars are caused by the recurrent perception that armed conflict will be beneficial because the improved end state will be worth the cost of battle. In fact, Van Evera maintains that the price is usually greater, and the benefits less, than nations, leaders and warriors persistently predict.

At first glance, this may seem like a resounding statement of the obvious. People fight wars like they do most other things—because they think they will be better off for having done it. However, on close examination many so-called truisms might prove false. From his central thesis, Van Evera deduces a series of related propositions; some of which other theorists and historians might dispute. Van Evera has been criticized for maintaining that military doctrine and capabilities can cause war themselves, whereas others tend to say that wars will not arise without substantial political conflict, irrespective of an imbalance of power. Van Evera's argument has a wealth of depth and detail.

Pass in Review

BLACK MAY: The Epic Story of the Allies' Defeat of the German U-Boats in May 1943, Michael Gannon, HarperCollins, New York, 1998, 492 pages, $30.00.

May 1943 was a dark month for German U-boat operations; it was when Allied antisubmarine operations gained the upper hand. The U-boats never recovered. *Black May* is a thorough and detailed narrative. For clarity and understanding, Michael Gannon details events and technical developments leading up to the pivotal month and the subsequent demise of the U-boat peril. I recommend the book as a comprehensive reference of this finite part of the war.—**LTC James P. Hartman,** ***USA, Retired, Aiken, South Carolina***

THE GREAT WAR, 1914-1918, Spencer C. Tucker, Indiana University Press, Bloomington, 1998, 272 pages, $39.95.

This well-written, concise survey emphasizes World War I's most significant military operations in political, social and economic context. Spencer C. Tucker's analysis complements the important recent work of Tim Traver, Trevor Wilson, J.P. Harris and Peter Liddle Tucker. Spencer Tucker also gives ample coverage to lesser, more obscure campaigns and includes an informative chapter on the Versailles Treaty. His analysis is brief but sound, and I recommend the book as a good introductory study.—**LTC Scott Stephenson,** ***USA, Fort Leavenworth, Kansas***

1939: The Alliance That Never Was and the Coming of World War II, Michael Jabara Carley, Ivan R. Dee, Chicago, IL, 1999, 321 pages, $28.95.

The years between 1937 and 1939 were pivotal in the 20th century's development. Had events occurred differently, the latter two-thirds of the century would have taken another trajectory. Michael Jabara Carley's book is a well-written, scholarly examination of European governments' failures to counter effectively Nazi Germany's expansionist policies focusing primarily on relations among Britain, France, Russia and Germany. The European situation in the late 1930s demanded an effective alliance with which to stop Hitler. Unfortunately, most Western European countries were more afraid of Communism's spread than of Germany's expansion. Therefore, the resulting policy became appeasement. The most exciting part of this book details the efforts of those who opposed appeasement but whose voices were not heeded.—**LTC John A. Hardaway,** ***USA, Retired, Leavenworth, Kansas***

The one flaw in Van Evera's search for recurrent patterns—the essence of theory—is that he ignores data that might disprove his thesis. Take, for example Vietnam: Van Evera says, "US officials recurrently underestimated their opponents. . . . In 1961 Secretary of Defense Robert McNamara and the Joint Chiefs of Staff (JCS) thought 205,000 US troops could achieve US goals." He should have focused on 1965, the year in which the conflict truly became an American war. Then the chairman of the JCS told President Lyndon Johnson that the war would require 500,000 to 750,000 US troops for approximately 10 years; that is, provided "we do everything we can." As for Johnson, he told McNamara that limited war in Vietnam—Johnson's own strategy—was one of "praying and grasping to hold on . . . and hope [that the communists] quit," which he believed they would never do.

Why is Van Evera reluctant to recognize that many leaders and nations have fought wars from which they expected to gain nothing more than political survival? Probably because it contradicts his primary purpose—to establish insight that would help mankind substantially reduce war's prevalence. If war is often a grim necessity, as opposed to a false opportunity as Van Evera's claims, then one is less likely to foresee its decline, let alone its complete abolition.

Michael Pearlman, ***Combat Studies Institute, Fort Leavenworth, Kansas***

BATTLE FOR EMPIRE: The Very First World War, 1756-1763, Tom Pocock, Michael O'Mara Books Ltd., London. Distributed by Trafalgar Square, North Pomfret, VT, 1999, 272 pages, $40.00.

Battle for Empire, by Tom Pocock is a well-written work of popular history based on the author's substantial knowledge of 18th-century sources. Pocock, a naval historian, has a fine understanding of English society in the Age of Enlightenment.

The book details the circumstances surrounding the execution of Admiral John Byng, whose failing was to arrive too late with too few ships to destroy a French fleet in the Western Mediterranean. The narrative then shifts from India to North America to the Caribbean and to Southeast Asia, thus providing the worldwide scope to the title.

This brief book concerns the Seven Years' War—also known as the French and Indian Wars—and the emergence of the First British Empire. Pocock concentrates on the war's extra-European theaters, devoting special attention to India and North America. He concentrates on the military and political history of the Seven Years' War itself, calling it "the very first world war."

Most historians consider the Seven Years' War a brief portion of

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MR. MICHEL'S WAR: From Manila to Mukden, An American Navy Officer's War with the Japanese, 1941-1945, John J.A. Michel, Presidio Press, Novato, CA, 1998, 320 pages, $26.95.

First Lieutenant John J.A. Michel, who was on the *USS Pope* when it sank on 1 March 1942, was captured by the Japanese and became a "guest of the emperor" until his release almost four years later. His memoir is realistic, without hyperbole or self-aggrandizement, and reads much as if he were telling his story in person. He does not portray Japanese brutality or heroic life-and-death POW struggles. Instead, he tells an engaging, straightforward story of survival and human interaction in difficult situations.—**LTC David G. Rathgeber,** ***USMC, Quantico, Virginia***

RAIDERS: Great Exploits of the Second World War, John Laffin (Lafflin), Sutton Publishing, London, 1999, 224 pages, $35.00.

This book consists mostly of stories and information about British commandos. However, the book's arrangement is disconcerting; Axis and Allied stories are intermingled. They should have been in separate sections and further divided by whether they involved land, sea or air operations. Also, Laffin should have added something about the Pacific Coast Watchers Organization, which significantly contributed to the Allied war effort, even though its mission was only to observe. Despite these lapses, I recommend the book.—**Richard Milligan,** ***TRADOC Analysis Command, Fort Leavenworth,*** **Kansas**

IN OUR OWN BACKYARD, William M. LeoGrande, The University of North Carolina Press, Chapel Hill, 1998, 128 pages, $45.00.

Surely *In Our Own Backyard* contains all one would ever want to know about El Salvador and Nicaragua during the 1980s and 1990s. This book is a splendidly yet simply written history of the era when US Presidents Jimmy Carter and Ronald Reagan tried to impose their stamp on events in Central America. Neither had a clear picture of the situation; often their courses of action were based on ideology rather than hard-nosed analysis. The battles among liberals and conservatives, various agencies, political appointees and professionals are disturbing but fascinating. One marvels at the difficulties in pursuing any type of cohesive, consistent foreign policy.—**COL Horace L. Hunter Jr.,** ***USA, Retired, Williamsburg, Virginia***

the British Empire narrative and usually concentrate on other, later issues. Unlike Pocock, most consider the height of British influence to have occurred in the 19th century. The Seven Years' War was one of a series of wars lasting from 1685 to 1815 and included France's struggle for hegemony in Europe, the emergence of Russia as a European power, and the shift of military and political power eastward toward Russia and Prussia. The war was part of a worldwide struggle for empire, territory and potential wealth.

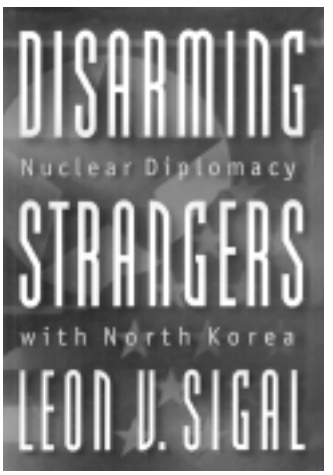
Pocock explains 18th-century military tactics and weapons systems, beginning with the events that led to Byng's execution. Byng's defeat at Minorca highlighted the differences in naval tactical schools at the time. On one side were those who advocated the unified tactics favored by the Admiralty's Fighting Instructions; others saw the possibilities in improvisation. Rigid adherence to the former was dominant until the middle third of the 18th century, when during a period of 59 years, there were 38 years of naval warfare.

Pocock ensures that tactics and land weapons systems receive the same sure explication as naval operations. He explains the reasons for the rivalry and problems arising between the King's officers and officers of the East India Company's army and the North American colonial militia. He clarifies relationships between artillery and infantry and the difficulties of waging war in the tropics and forests, showing how formal European tactics changed to deal with such obstacles.

There are, of course, several caveats, including a woeful lack of maps, a slighting of the Siege of Manila and the excessive concentration on the English side of the story. The latter is the most understandable failing, given the book's original intended audience.

Pocock remembers, as American colonials did, that the unintended result of the Seven Years' War was the founding of the United States. Consequently, he indulges in a bit of counterfactual history, speculating on the possible course of events if key figures such as James Wolfe and George Howe had not died when they did. These minor quibbles aside, the book instructs without being ponderous and allows us to enter a different world and begin to understand what happened and why.

Lewis Bernstein, ***Combined Arms Center History Office, Fort Leavenworth, Kansas***



DISARMING STRANGERS: Nuclear Diplomacy with North Korea, Leon V. Sigal, Princeton University Press, NJ, 1998, 321 pages, $29.95.

Has post-Cold War US strategy toward North Korea been dangerously wrong? Can emphasizing cooperation rather than diplomatic, economic and military coercion elim-

THE ARIKARA NARRATIVE OF CUSTER'S CAMPAIGN AND THE BATTLE OF THE LITTLE BIGHORN, ed., Orin Grant Libby, University of Oklahoma Press, Norman, 1998, 320 pages, $9.95.

In 1912, Orin Grant Libby translated interviews of the scouts who accompanied Lieutenant Colonel George Custer on his campaigns of 1874 through 1876. Libby disputes the claim that the scouts acted cowardly at the Battle of the Little Bighorn. He elaborates on Custer's orders to the scouts, which primarily focused on stampeding Sioux-Cheyenne horse herds. The scouts believed Custer could not win the battle but, nevertheless, attempted to obey his orders. Though somewhat restrictive in nature, Libby's research reflects great detail and accuracy. For researchers who want to delve deeper into this subject, this account was originally published as volume 6 of the Collections of the State of North Dakota.—**COL C.E. Hatch,** ***USMC, Retired, Foster, Oklahoma***

FIVE DAYS IN LONDON, MAY 1940, John Lukacs, Yale University Press, New Haven, CT, 1999, 236 pages, $39.95.

John Lukacs contends that Nazism was more dangerous in the early 1940s than most people imagine. Nazism was dynamic, seductive, respectable and modern. Lukacs combines his great familiarity with British War Cabinet documents and Hitler archives in a readable, scholarly, suspenseful book. His tale of the verbal duel between British Prime Minister Winston Churchill and British Foreign Secretary Lord Edward Halifax over the conduct of the war in the face of British defeat in France is quite interesting. He also illuminates a little-known historical turning point in the British Cabinet discussion of whether to negotiate with Adolf Hitler through Italian dictator Benito Mussolini or to continue fighting, whatever the consequences. Like the rest of Lukacs' books, this one deserves the highest recommendation; it is the work of a master at the top of his form.—**Lewis Bernstein,** ***Assistant Command Historian, Fort Leavenworth, Kansas***

inate nuclear tension on the Korean peninsula? In his book, *Disarming Strangers: Nuclear Diplomacy with North Korea,* Leon V. Sigal contends that inappropriate US policies for North Korean nuclear disarmament have increased rather than reduced instability and the threat of war in Northeast Asia.

Sigal, a former member of the *New York Times* Editorial Board, has written more than 60 editorials on the subject of nuclear diplomacy with North Korea. His central thesis is that when dealing with North Korea on the issue of nuclear disarmament, US cooperative gestures—cooperative threat reduction—have consistently proven to be more effective than economic sanctions or military threats—the crime-and-punishment approach.

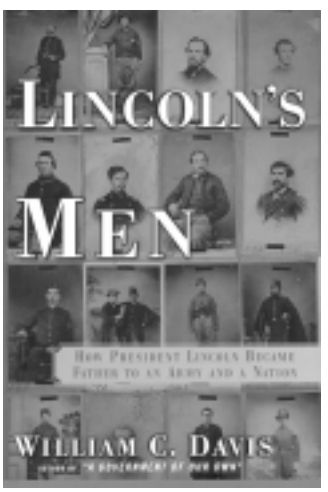
Sigal supports his argument by examining US—North Korea relations from 1988 to 1995, highlighting North Korea's recurring pattern of "tit-for-tat negotiating behavior." For example, in response to cooperative gestures by the United States, such as the cancellation of the 1992 ROK/US military exercise TEAM SPIRIT, North Korea clearly reciprocated by signing the Safeguards Agreement. US coercion and broken promises during TEAM SPIRIT in 1993 led to North Korea's retaliatory intent to renounce the Nonproliferation Treaty. Therefore, Sigal recommends cooperation, not coercion, in future negotiations.

Sigal is sure to be criticized by "experts" in the foreign policy and defense establishments who consider any cooperative efforts to be appeasement or a sign of domestic and international weakness. This perception will either provide North Korea with a greater incentive to commit "nuclear blackmail" in order to gain additional concessions or will whet North Korea's appetite for further nuclear proliferation.

Sigal counters the appeasement argument by claiming that North Korea is more interested in improving relations with the world community by complying with nonproliferation agreements than in remaining a nuclear pariah. However, North Korea will only disarm if provided sufficient political and economic incentives. Sigal concludes that in the long run it will be significantly less costly to the US to grant certain inducements to North Korea than to risk war.

This book's, thought-provoking, well-documented analysis of nuclear diplomacy goes far beyond the political rhetoric that often obscures an already complex issue. Sigal examines widespread, but possibly erroneous, assumptions about North Korean nuclear capabilities and intentions.

MAJ Joseph M. Perry, *USA*,
Fort Leavenworth, Kansas



LINCOLN'S MEN: How President Lincoln Became Father to an Army and a Nation, William C. Davis, The Free Press, NY, 1999, 315 pages, $25.00.

It is rare when a book reviewed in this journal can be said to be primarily about love, but that is exactly the topic that William C. Davis writes foremost about in *Lincoln's Men*. This is an extraordinary book by a superb writer who knows his background. He has written more than 30 works about the Civil War including, curiously, what might be the best biography of Confederate President Jefferson Davis to date.

Davis's thesis is that Lincoln forged a special bond with the soldiers of the Republic while he was in office—a bond that showed a father's love and joy for the men he had to sacrifice on the alter of freedom and union.

Davis does not shy away from praise for "Father Abraham." His extensive use of quotes from the soldiers make clear their love for the president throughout the war, especially as victory neared. Lincoln convinced the soldiers of his regard for them through his genuine concern for their well-being, never blaming them in defeat and lavishing praise on them always.

Because Davis quotes the soldiers so liberally, and because he frames his book using works that Lincoln had read that described President George Washington and his place in 19th-century US society, the writing often approaches hyperbole and iconography. For example, Davis includes the following tribute. After hearing of the president's death, one Richmond soldier wrote, "His deeds shall live. Thank God he lived to see his great principles established upon the track of a fleeing foe." "He was our best friend," sobbed another, "God bless him."

Davis can get away with such raw sentimentality because it rings true. He convinces us that Union soldiers really did love Lincoln as a father, as a worthy successor to Washington himself.

Davis also can use sentimental language because he is a good historian. He deftly wends his way through 1862, "The Year of McClellan," pointing out that at first Lincoln misread his own strength with the army before recognizing that he was "stronger with the Army of the Potomac" than was McClellan. Davis rightly describes the vivid reaction of some of the soldiers who disagreed with Lincoln and thought well of "Little Mac."

Davis forthrightly addresses some of the intense hatred shown toward Lincoln for both the Emancipation Proclamation and the raising of black regiments. Feelings ran high on these issues and Davis reports from both sides.

Finally, Davis explores the sentiments of the soldiers in the 1864 election, when nearly eight of every 10 men voted for Lincoln and union. Davis realizes that in winning the popular wartime election Lincoln won far more than votes; he won a strengthening of democratic values. Davis convinces us that the soldiers realized this and loved the president all the more for it.

Davis has written the best kind of history. The book is factually accurate and will make the military professional better off for reading it.

MAJ Todd Laughman, ***USAF,***
Dulles, Virginia

THE GAITHER COMMITTEE, EISENHOWER, AND THE COLD WAR, David L. Snead, Ohio State University Press, Columbus, 1999, 286 pages, $19.95/$39.95.

General and President Dwight D. Eisenhower enjoyed a unique credibility when he admonished Americans to beware the military-industrial complex. Committed absolutely to the precepts of individual liberty and economic prosperity, he warned that unchecked military spending in peacetime could "wreck our economy, [which] would be as great a victory for the Soviets as they could remotely hope for in a war." Yet in the final years of his presidency, he significantly expanded US military capability, incurring concomitant increases in defense spending.

David L. Snead's *The Gaither Committee, Eisenhower, and the Cold War* posits a logical and previously unexplored solution to the paradox. Snead argues that Eisenhower's practice of empanelling committees of subject matter experts to address problems caused him to become a victim of just such a committee.

The 1957 Gaither Committee's purpose was to evaluate US passive and active defenses against possible attack. It determined that the United States would lose the nuclear upper hand over the Soviet Union in a mere two years. Possible US vulnerability to a surprise Soviet nuclear attack would increase unless rapid, proactive measures were taken. Thus was born the "missile gap" and the onus to undertake the expensive preparations to defend the United States.

According to Snead, Eisenhower would probably have reassessed national security posture following the release of the committee's findings, but the Soviets galvanized US public sentiment with the astounding launches of Sputnik I and Sputnik II in October and November 1957. The missile gap and the threat of Soviet world domination became real to every American.

Among specific committee recommendations were nuclear parity, early warning radar, dispersal of Strategic Air Command forces at new bases, construction of fallout shelters nationwide and the reorganization of the Department of Defense. Snead asserts that Eisenhower had to counter his cornerstone policy of minimal defense spending to address the findings *his* committee forwarded.

Although Eisenhower chartered the committee, he attended only one meeting. This was in keeping with his military leadership style, which had served him well while he was a general. However, in this instance it failed him, and he was caught off guard. He had empowered a committee of experts, who were also avid defense proponents, then left them to their own devices. It is no surprise they came to the conclusions they did. A young senator from Massachusetts, John Kennedy, accepted completely the Gaither Committee's findings and used the results to attack the Eisenhower administration and to fuel the subsequent conventional and nuclear build up, which was at the heart of the Cold War.

MAJ David G. Cotter, ***USA,***
Fort Leavenworth, Kansas

THE POLITICS OF STRATEGIC ADJUSTMENT: Ideas, Institutions and Interests, Peter Trubowitz, Emily O. Goldman and Edward Rhodes, eds., Columbia University Press, NY, 1999, 331 pages, $47.50.

In *The Politics of Strategic Adjustment*, editors Peter Trubowitz, Emily O. Goldman and Edward Rhodes assemble a set of essays that argue for a closer look at the influence of domestic politics on US security policy. However, the essays do not conclusively prove their thesis—that domestic influences outweigh changing international conditions in national security decisions—but they do succeed in making the valuable point that domestic factors might often be primary sources of motivation and should never be ignored.

Strategic adjustment is considered to be "the business of redefining security objectives when established ends no longer bear a compelling relation to evolving circumstances." To analyze it, the writers survey the past century, focusing on the maritime component of national security policy. The essays do not necessarily prove the same points.

"Constructing Power" asserts emphatically that international security conditions were not a major factor in the decision to build an imposing navy despite naval officer and historian Alfred Thayer Mahan's conviction that they were. "From the Sea" indicates that the development of a new maritime concept a century later was driven primarily by the collapse of the Soviet Union. Although the editors hope to establish that social change and domestic imperatives influence security choices as much as, or more than, international conditions, what emerges is that, in fact, the need for strategic adjustment is produced by changes in international conditions.

The need for strategic adjustment is accepted rather than analyzed in all the essays except "Constructing Power." Since most of the authors are professors of political science, they focus on the political factors that affect national security decisions rather than on why those decisions have to be made in the first place. From that perspective they acquit themselves well. Surveying influences from the media to cultural-cognitive indicators such as perceptions of the nation-state, they provide excellent source material on US attitudes between the 1890s and 1990s.

A military reviewer cannot accept all the writers' premises, however, such as "carrier aviation represents a hybrid form of strategic adjustment." That is possible, but carrier aviation is principally a form of operational adjustment made possible by technology. Its conformity to a model for strategic analysis does not explain why the Navy needed it. On the same principle, a reader who remembers that political factors in strategic security adjustments do not explain why those adjustments had to be made will accurately assess both the context and the value of these hard-working essays.

LCDR Jennifer E. Dyer, ***USN,***
Fort Leavenworth, Kansas

FASCIST AND LIBERAL VISIONS OF WAR: Fuller, Liddell Hart, Douhet and Other Modernists, Azar Gat, Clarendon Press, Oxford, NY, 1998, 334 pages, $85.00.

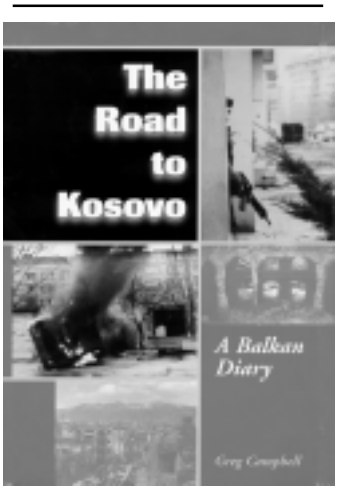
Fascist and Liberal Visions of War completes Israeli professor Azar Gat's trilogy of the intellectual and cultural history of military thought from the 18th century to World War II. In many ways this book is the best of the three, although Gat's date-analysis of the final notes in Carl von Clausewitz's *On War* (Viking Press, NY, 1983, $12.95) alone would make the first volume, *The Origins of Military Thought from the Enlightenment to Clausewitz* (Clarendon, 1989, out of print), worth reading. However, *Fascist and Liberal Visions of War* is superior in form to *The Origins of Military Thought* and its successor *The Development of Military Thought: The Nineteenth Century* (Clarendon, 1992, out of print) in the author's sense of balance and structure. Gat seems to have found his most felicitous voice in his final volume.

This book can be divided largely in half. In the first half, Gat treats together fascist, Soviet and US populist responses to the social and technological revolutions that so changed war during the brief interwar period. He discusses J.F.C. Fuller and Giulio Douhet in light of a social-cultural definition of fascism that, however synthetic, provides a sound heuristic device for analysis. The essay on Douhet is excellent, and Gat's ability to refer to Italian sources makes it particularly effective. His treatment of Fuller is also well done, not quite on par with Brian Holden Reid's best work, but remarkably close, perhaps because Gat was educated at the University of London where Reid teaches. Gat's treatment of German, Soviet and US proponents of mechanization and airpower is less focused but sound and well presented.

The book's real value lies in the second and longer part that is essentially a paean to B.H. Liddell Hart. Gat unquestionably has assumed the mantel of Liddell Hart's defense counsel, particularly in response to the case laid down by John Mearsheimer in *Liddell Hart and the Weight of History* (Comstock Publishing Association, Ithaca, NY, 1989, $39.95). Combining these six chapters with Gat's other work on Liddell Hart provides the most sound intellectual biography of the father of the indirect approach in print. Interestingly, Gat pairs Liddell Hart with US patrician foreign policy philosopher John Kennan as a prophet of the Cold War and deterrence theory. Gat makes a strong case, although I find credit given Liddell Hart in this instance somewhat excessive.

Gat's books offer the best single-author treatment of western operational military theory in the modern age. Studying them in depth is worthwhile.

COL Richard Swain, *USA, Retired, Leavenworth, Kansas*



THE ROAD TO KOSOVO: A Balkan Diary, Greg Campbell, Westview Press, Boulder, CO, 1999, 229 pages, $25.00.

The Road to Kosovo: A Balkan Diary is a perfect title for Greg Campbell's book. As he travels from Bosnia to Kosovo, he describes the horrors of war and the lasting results of the atrocities committed by the warring factions. His travels symbolize his beliefs that the solution to Bosnia's crisis directly led to that in Kosovo. To Campbell, the Dayton Accord "became little more than a means of partitioning the country," and although peace was established, the political and military responsibilities were represented ineffectually.

Campbell paints a horrific picture of war's effects as he visits towns and speaks with inhabitants. Everywhere he goes he faces festering memories of war—refugees cannot return to their homes, and war criminals roam freely, continuing the hate that pervades the country.

Campbell writes, "Kosovo's revived autonomy should have been included in the Dayton Accords as a necessary provision for peace in Bosnia." By ignoring Kosovo's future, the international community gave Serbian President Slobodan Milosevic approval to terrorize the region. The Kosovar's solution to the repression was the Kosovo Liberation Army.

Those in the defense community and those who wish to understand more about the region should read this book. Campbell provides an insight that is often not considered within military circles. The book is especially helpful in explaining how political and civilian leaders perceive those prominent military leaders involved in the peaceful resolution of the Bosnian crisis as minimalists when it comes to nontraditional missions. Campbell argues soundly that unsynchronized political and military missions create greater problems.

Campbell does not provide a solution to the crisis, but he does provide a representation of what the solution should not be. The oversights in Dayton continue to fuel the hatred that for years has caused people to commit violent acts on their neighbors.

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ROTC FUTURE LIEUTENANT STUDY, Arthur Coumbe, Larry Brown and Arnold Leonard, eds., U.S. Army Cadet Command, Fort Monroe, VA, 1999, 406 pages, price unavailable.

The dilemma the Army now faces results from over 30 years of major societal changes that directly affect force composition. Degradation of cultural values and norms, which began in the 1960s, is coming to fruition in "Generation X." The long-range effect will be significant. The *ROTC Future Lieutenant Study* examines how to deal with the problems facing the officer corps.

This lengthy study is an eclectic composition of interviews and

formal papers by a variety of people. Although sometimes difficult to follow, the book offers some excellent essays. Don Snider writes on the military ethos, and Patricia Shields contributes a useful and insightful study on the demographics of potential officer aspirants and the effects their social backgrounds have on their entry into the military. Other essays are just as erudite.

The most disturbing thread woven throughout the book is Army leaders' apparent promotion of a 1970s "VOLAR" attitude. Once again, the "*Army Wants to Join You!*" as the service increasingly struggles to reestablish the lost professional Army of 1980s.

Instead of taking its cue from the Marines, the Army seems content to abandon the moral high road and accept current cultural standards. Polls indicate this is probably the wrong approach. The Marines, sticking to their traditions and policies despite criticism, have overwhelmingly retained public respect. As a result, their recruitment efforts continue to meet goals, while the other services still suffer serious deficits. The study correctly recognizes the changes in society and that young people are much different from those of 30 years ago. However, polls also indicate that the public retains a high degree of confidence in and respect for the Army—largely because of its historical conservative values. However, the tone of this book suggests that to integrate future lieutenants, the army first needs to meet society's cultural standards. Moral relativism is a dangerous road to follow just to maintain numbers.

This study contains valuable insights amid the chaff. Many of the authors' recommendations have already been implemented, but often without specific guidance. Although the Cadet Command program of instruction is a great guide, it is overprescriptive. Cadets are encouraged to take ancillary courses that complement ROTC, but they are also subject to strict college requirements, which means many remain in school for five years to meet commissioning requirements.

Making the assistant professor of military science more an "educator" and less a trainer is rational. But doing so will not happen easily—it would be more like applying the spurs but pulling back on the reins.

Summer camp is a measure of an ROTC program's quality. Cadets must thoroughly train for summer camp because it is very, very competitive for the student and his school's cadre. No professor of military science worth his salt will allow cadets to go semiprepared. Doing so would result in a self-inflicted wound.

Reducing training for the sake of more "education" sounds good but is not reality. Cadets are not measured at camp on their education. They are measured on whether they can perform training tasks and exhibit basic leadership skills—not give discourses on civil-military relations. Trying to instill this change into years of tradition will take a major shift in how we conduct business. It will not be easy.

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